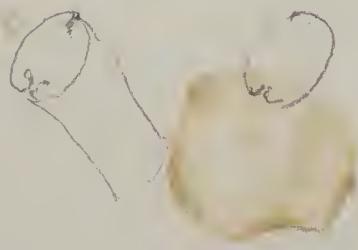


Aradina.



Most of

The plants here enumerated were found
on a small island called Ura Kanitsche-
tschen & sometimes Biene. It is the
same that is separated from the main
by the strait called by Russian Botanists
Senjavin strait. The collection was made
between the 4th of August & the 13th of Sep-
tember. Containing little or nothing of novelty
botanically considered it yet adds something
to our knowledge of the geographical dis-
tribution of northern plants.

Meantime Mr Small on the steamer
landed at several places on the shore of the
Okhotsk Sea & added a variety of interest-
ing things to those obtained at Behring's
strait.

Arctic Asia

- Astragalus alpinus* L
Phyteum alpinum L
Anemone narcissiflora L
" *coerulea* DC
" *Richardsonii* Hook
" *parviflora* Mx
Ranunculus aquatilis L
" *hyperboreus* L
" *pygmaeus* Wall
" *nivalis* L
" *affinis* R Br
Leonticha pulustris L
Aconitum Lycocanthum L
" " " var *rannunculoides*
" *productum* Reich
Kantschaticum Pall
" *delphinifolium* Reich
Delphinium elatum L
" *Middendorffii* Traub
Panax alpinum L
Dicentra trinifolia DC
Borydalis amurensis Bham & Schlecht
" *peoniaphloia* Pers
" *pauciflora* " var *elegans*
Barbarea vulgaris R Br
Arabis hirsuta Scop.
" *Kamtschatkaea* Flisch
Cardamine bellidifolia L

Leontopodium hispanicum Cham. & Schlecht
Lamium galeobdolon L.
 " *hirsutum* L.
Dianthus barbatus L.
Polygonum macrorhizum R. Br.
Draba alpina Adams
 " " - var *macrorhiza*
 " *alpina* L.
 " *affinis* Ledeb
 " *nivalis* Ledeb
 " *hirta* L.
 " *incana* L.
 " *gracilis* Ledeb
 " *stanslotei* Ledeb
 " *nemorosa* L.
Leucanthemum oblongifolium Dc
 " *Anglica* L.
 " *Daviesii* L.
Iberis sempervirens L.
Sisymbrium officinale L.
Erysimum cheiranthoides L.
Polygonum perfoliatum Brongz
Ceratostigma edwardsii R. Br.
Viola setkirkii Pursh
 " *pulchella* L.
 " *sylvatica* Fries
Parnassia palustris L.
 " *Totaneana* Schlecht
Dianthus repens Willd
Silene acaulis L.

Silene pauciflora Ledeb
 " *inflata* Sm.
 " *prostratum* Muell
 " *ochotensis* sp. nov.
 " *repens* P. A. Nels
Melandrium apetalum Griseb
Silene Gunnii Pers
Alsine cornuta Benth
 " *macrocarpa* Griseb
 " *arctica* Griseb
Hougenya leptoides Chrtek
Merckia physodes Fries
Moehringia lateriflora Griseb
Stellaria cuspidata Cham. & Schlecht
 " *gracilis* Richardson
 " *longipes* Goldie
 " *florida* Fries
 " *truncata* R. Br.
Ceratium vulgatum L.
Geranium erianthum Dc
Lolium aenescens Willd
Molinia longistylis L.
Astragalus alpinus L.
Oxytropis vulcanica Dc
 " *Merbeniana* Fries
 " *campestris* Dc
Phaea Aboriginea Hook *Oxytropis*
Primula malacoides Linn
Lathyrus palustris L.
Pedicularis borealis Nutt
Spirea betulifolia Pall

- Spiraea Arvensis* L
Dryas octopetala L
" *integripolia* Dahl
Sanguisorba officinalis L } distributed among Jap Plants
" *lemnifolia* Frisch
- Ignum strictum* Ait.
Succowia glacialis R. Br
" *Reticulata* R. Br.
" *anemonoides* Mitt
Potentilla Norvegica L
" *stolonifera* Lehm
" *ausserna* L
" *nivosa* " "
" *valliorum* Pall
" *biflora* Mitt
" *fruticosa* L.
" *elegans* Cham. & Schlecht
Rubus saxatilis L
" *chamaenorum* L
Rosa cinnamomea L. var
" " "
Pyrus communis Cham & Schlecht
Coprosma angustifolia L
" *latifolia* "
" *oreocarpella* Gmel
" *alpina* Boiss. ~~Lehm~~ L
" *affinis* Payne
- ~~Gaultheria~~ *Hippocratea montana* Ledeb
Gaultheria vern L
- Ribes*
- Umbellifer spinosa* DC
- Sedum elongatum* Ledeb
" *Rhodiola* Hb
" *cyanescens* Rudolph

- Sedum Aizoon* L
Saxifrage oppositifolia L.
" *bronchialis* " "
" *nitida* Schreb
~~*Roschschottia*~~ *Stemb*
Merkii Fisch
" *Strigulos* L
" *stellata* L
" *Davurica* Pall
" *nivalis* L
" *meriaugotii* Waldst & Kots.
" *punctata* L
" *nudicaulis* Don
" *cernea* L
" *bracteata* Don
" *rotundifolia* L.
" *sileneiforme* Stemb
Oxyosplenium Kuntschaticum Schlecht
" *alternifolium* L
Ogotorodium alpestre Gedeb
Buxbaumia canaliculata L
Ligusticum Scotticum L
Conioselinum Fischeri Wimmer & Grabowski
Archangelica lychnidis D.C.
Cornus suecica L
" *canadensis* L.
Sambucus racemosa L
Lonicera nigra L
" *coerulea* L.
Ginnnea borealis Lpou
Drewilla

Galium boreale L.
" *verum* " *verum*
Valeriana capitata Pall
Nardosmia frigida Hook
Aster sibiricus L.
Brigeron uniflorum L.
" " *elongatum* Ledeb
Solidago Virgaurea L.
Achillea Sibirica Ledeb
Tenuanthemum integrifolium Ledeb
" *arcticum* " "
" *sibiricum* " "
Banacetum vulgare L.
" *Pallasianum* Gratio
Artemisia borealis Pall
" *Norvegica* Fries
" *vulgaris* L.
" *glomerata* Ledeb
" *Senarmontis* Besser
Antennaria alpina Re Br.
Agoseris Sibirica Less
Leucalix hastata L.
" *arriculata* Ledeb
Arnica alpina Lessce
Senecio frigidus Less
" *ruscifolius* Less
" *hookeri* Gray & Gray
" *octoylorus* Ledeb
" *Pseud Arnica* Less
Saussurea subsinuata Ledeb

Saussurea Gilesii Ledeb
" *augustigolia* Ledeb
Scorzonera radiata Gaertn
Hieracium umbellatum L.
Mulgedium sibiricum Less
Phryaxium Scut-leonis Desf
" *ceratophorum* Ledeb
Campanula expansa Rudolphi var *dentata*
" " "
" *uniflora* L.
Vaccinium myrtillus
" *Vitis Idaea* L.
" *uliginosum* "
Antostaphylos alpina Spreng
Cassiope tetragona Don
" *eriocoides* "
Phyllodoce taxifolia Salisb.
Loiseleuria procumbens Desv.
Rhododendron Lapponicum Wahl
" *Kantschaticum* Pall
Ledum palustre L.
Pyrola rotundifolia L.
" *secunda* "
Moneses uniflora Gray
Primula minima Pall
" *borealis* Duby
" *cuneipolia* Ledeb
Anemone arctica Cham. & Schlecht
" *chamaepitys* Koch
" *septentrionalis* L.
Dridicatheron frigidum Cham. & Schlecht

Orientalis Europaea L.
Gentiana austriaca Pall
" *tenella* Rottl
" *propinqua* Richards
" *barbata* Froel
" *prostrata* Honke
" *frigida* Honke
" *glauca* Pall

Pleurogyne leainthaica Griseb
Halemia sibirica Borkh.

Sweertia obtusa Ledeb

Polemonium caeruleum L

" *pulchellum* Brunge

Diapensia lapponica L.

Mertensia maritima Ledeb

" *divaricata* G. Don

Ajuga sylvatica Hoffm

Dutrichum arctioides A. Nels

Vernonia sessypyllifolia L

Castilleja pallida Kunth

Bartsia alpina L

Pedicularis verticillata L

" *resupinata* L

" *subbrasilioides* Steyermark

" *sudetica* Willd

" *lancea* " "

" *versicolor* Wahl

" *capitata* Adam

Boschniakia glabra B. C. Meyer

Gymnandra Stelleri Chavard Schlecht
Tintice

Rheum Rhaponticum L

Oxyria reiniformis Hook

Rumex Fructuosa

" *aetosa* L

" *aetosella* "

Rumex graminifolius Lumb

Noemagia Islandica L.

Polygonum Bistorte L.

" *viviparum* L

" *polymorphum* Ledeb

" *triplocauleum* G. W.

" *divaricatum* L

Oxytrum myosum L

Salix leahru L

" *phylicarpa* L

" *hastata* L

" *rhamnifolia* Pall

" *glauca* L

" *arctica* Pall

" *Uva-ursi* Pursh

" *reticulata* L

Salix polnii Wahl

" *retusa* Tourn

Populus suaveolens

Betula ermanii Cham

" *fruticosa* Pall

" *nana* L

Alnus viridis DC

Prunus Japanensis Griseb

" *Sibirica* Ledeb

" *lecentia* L

Triglochin palustris L

Oreaster aristatus Griseb

Peristylus viridis Lindl

Iris setosa Pall

" *Pseudacorus* L?

Trillium obvovatum Parish
Struthiopteris rosea My
Smilacina trifolia Desf
Leloydia serotina Salisb
Allium splendens Willd
 " *Schoenoprasum* L
Fritillaria
Veratrum album L
Zygophelia halistrix Huds
 " *coccinea* Brown
 " *calyculata* Wahl
Lentibula pilosa Willd
 " *Spadicea* Döp
 " *arcuata* Wahl
 " *campestris* Döp
 " *spicata* Döp
Juncus castaneus Sm.
 " *triglumis* L
 " *bogleensis* L
Ondosthorum vaginatum L
 " *capitatum* Host
Chamaissonea C. A. Meyer
 " *angustipolium* Roth
 " *latipolium* H. W. H.
Dryna spicata Hook
 " *coriacea* Mert. & Koch
Learey sisypheoides My
 " *nardina* Thres
 " *incurva* Light.
 " *lugubrina* Wahl
 " *glauca* Wahl
 " *accuta* Dewey

Learey ruingtonii Smith
 " *fuliginosa* Sternb & Asper
Gmelini Hook & Arn
rigida Good
 " *stans* Dreyer
Hyperborea Dreyer
cryptocarpa Meyer
saxatilis L.
 " *compacta* Br
Tolmiei Booth
procera Gaey
capillaris L
longioristis Meyer
 " *ampullacea* Good
Glynnis mollis Trin.
Festuca ovina var *vivipara* L
 " *brevijohia* R. Br
 " *scutellata* Donn
Poa arctica R. Br
 " *caspi* Sm
 " *memorialis* L
leolpodium fulvum Gedeb
 " *latifolium* R. Br
Dupontia Fischeri R. Br.
Catabrosa algida Trin
Atrichum angustata Ledeb.
Glyceria distans Wahl?
 " *arctica* Hook
Hierochloe alpina Roem. & Schultes
Trisetum subspicatum Beauvois

Aira brevifolia R. Br.

" *cospitum* L

Aulamugrostis deschampsiioides Griseb.

" *stygosa* Borg

" *canadensis* P. Br. B.

Phleum alpinum L

Equisetum arvense L

" *sylvaticum* L

" *variegatum* Schlecht

Lycopodium Selago L

" *annotinum* L

" *complanatum* L

Sitaginella rugosaria Spring

Polyodium Dryopteris L

Woodsia ilvensis R. Br.

" *gibbella* "

Aspidium fragrans Br.

" *spinulosum* Br.

Cystopteris fragilis Bernh.

Asplenium filix-femina "

Blechnum spicant Roth

Ranunculaceæ.

Aragene alpina, Linn. A. alpina & A. Ochotensis, Ledeb. Fl. Ross., 1, p. 4; Clematis alpina, Will.; Cham. & Schlecht. in Linnaea, 6, p. 371. C. Sibirica, Will.; Hook. & Arn. Bot. Beechey, p. 111. Aragene platysepala, Trautv. & Meyer, Fl. Oehot. (in Mid-dendax. Sibir.) p. 5; Petropavlovski, climbing among bushes.

Specimens from the same station and of the same date have both linear, narrowly spatulate, and some of them more broadly spatulate and remarkably large petals, thus obliterating the principal distinction between A. alpina, and A. Ochotensis, and the recently proposed A. platysepala. The sepals also vary from ovate to narrowly oblong, the shape evidently depending much upon their age. The geographical range of this species is from the Pyrenees and the Alps, through Siberia to the Okhotsk sea and Kamtschakka, reappearing on the American Continent in the Rocky Mountains, about Lat. 44° (Aragene Columbiana, Nutt. in Torr. & Gray, Fl. 1, p. 11) and in Lat. 36° (A. Ochotensis, Gray, Pl. Fendl. p. 4). But it appears to be absent from all

(2)

Scandinavia and from Eastern North America; adding another to the numerous instances which indicate a stronger botanical connection between the New and the Old World via Siberia &c. than via Canada and Western Europe.

Thlaspium alpinum, Linn. H.

Prod. 1, p. 12; Torr. & Gray, Fl. p. 39. Ural-
tschetschene Island.

The specimens are uncommonly large 4-10" high; flowers purplish-anthers yellow.

Anemone narcissiflora, Linn. var.
monantha, H. Prod. p. 22; Cham. & Schlecht.
in Tunner, 6, p. 376; Zedeb. Fl. Ross. 1, p. 18.
Uraltschetschene Island.

In appearance, this is strikingly distinct from the ordinary state of the species (which was not met with), being smaller and the numerous specimens, both in blossom and in fruit, being uniformly one-flowered.

Anemone Richardsoni, Hook. Fl. Bor-
Am. 1, p. 6, t. 4; Zedeb. Fl. Ross. 1, p. 16.
Uraltschetschene Island.

(3)

Anemone coerulea, Dc. Syst. 1, p. 203;
Ledeb. l. c. Arakamtschekene Island,

The leaves of the involucle show an occasional incision. The flowers are uniformly solitary.

Anemone parviflora, Michx. Fl. Bor.

Am. 1, p. 319; Dc. Prod. 1, p. 19; Torn. & Gray,
Fl. 1, p. 13. Arakamtschekene Island.

Ranunculus aquatilis, Linn. var.
divaricatus, R. divaricatus, Schrank, R.
circinatus, Sibth. Margin of pools, Arakamtschekene Island

Ranunculus hyperboreus, Rottb.; Dc. Prod.
Prod. 1, p. 35; Ledeb Fl. Ross. 1, p. 35. In
pools, Arakamtschekene Island

^{Fl. Am. p. 61}
Trant. (on Sheldens. Sibir.)

Ranunculus pygmaeus, Wahl.; Dc.
Prod. 1, p. 35; Hook. Fl. Bor. Am. 1, p. 16;
Ledeb. Fl. Ross. 1, p. 36. On hillsides and sand-
beaches, Arakamtschekene Island. (Flowers yellow)

Ranunculus nivalis, Linn. Wahl. Fl.

Sap. p. 156; Schlecht. Ranunc. Annad. 2, p.
14; R. Brown, in Parry's Voy. Suppl. p. 264;
Hook. l. c. Ledeb. l. c. Damp grounds and

(4)

margins of pools, Crakanischkene
Island

Plant from four or five inches to more than a foot in length and varying in foliage, especially in the radical leaves, as described by Schlechtendal and by Brown. The radical-leaves of the larger specimens are, for the most part, just those of *R. frigidus*, Willd. (*R. Altaicus*, Gaym. & Gedeb.), being incisely-ovenate or slightly several-lobed, rather than deeply 3-5-lobed or parted (although they sometimes are so). Were it not that the petals are quite entire and their veins seldom anastomosing, we could not hesitate to reduce *R. frigidus* to this species, contrary to Brown's and Schlechtenal's opinion: indeed it can hardly be expected to remain distinct upon these characters. The style forms a slender and straight beak, a little shorter than the mature acheneum.

Ranunculus affinis, R. Brown in Barry's
1. Voy. App. p. 253; Schlechth. Ranunc. Animad.
2, pl. 18; Trautv. Fl. Taimyr. p. 62, (in Middendorff.
Sibir.). Crakanischkene Island

The leaves have commonly the middle lobe entire and larger than the others which

(5)

decrease in size to the margin. The capsules are not perceptibly pubescent.

Caltha palustris, Linn., D. Prod. I,
p. 44; Hook. & Arn. in Bot. Beechey, p. 112.

Margin of pools, Petropavlovski. Coal Bay,
~~St. Mihailoff~~ var. Radicans. C. radicans,
Florsh in Fl. Trans.; D. l. c. Arakamchetchen
Island.

Delphinium elatum, Linn.; Zedl.
Fl. Ross. I, p. 61. Hillsides and ravines, Ayau,
shore of Chototsk Sea. J. Small.

This certainly belongs to D. elatum as
that species is received by Zedelour. It
accords in many, but not in all respects
with the D. laxiflorum var. leucocarpum of
Trautv. & Meyer Fl. Cehot. l. c. p. 11. Perhaps
it is rather their D. intermedium; but the
stems are pubescent and the ovaries glabrous.

Delphinium Middendorffii, Trautv.
Fl. Yaimyr. (in Midden. Sib.) p. 63, t. 1.
Arakamchetchene Island.

Trautvetters figure and description
leave no doubt that our specimens belong
to this Arctic Siberian species, although
they are rather larger; the stem is pubescent.

(6)

and the lower petals generally more notched. The thick and oblique or horizontal caudex, the large, long-spurred flowers, and the densely tomentose ovaries are characteristic. It may be also the imperfectly known *D. paniculatum* of Reichenbach, which came from the same region as our plant, but the characters do not accord. On the other hand it might be compared with the Western American *D. Meekesii*, which was gathered at Botzeliue's Sound according to Hooker and Arnott, and extends to Cape Lisburne, according to Steemann. But the rootstock is very unlike the grumose-tuberous root of that species, the plant is much stouter, more leafy and the lower petioles much more dilated.

Aconitum delphinifolium, Richemb.

Monogr. gen. Aconit. p. 79 t. 9. A. Napellus, var. delphinifolium, Hook. & Arn. l. c.; Ledeb. l. c. Arakamtschene Island.

Aconitum Kamtschaticum, Reichenb. l. c.
Sl. l. c. Pall. ex Reichenb.; Schlecht. in Linnaea,
6, p. 582; Ledeb. l. c. O. F. von Siebold
& Blume. Flowers blue, on hillsides. Fabius Bay & Coal Bay
J. Small

(7)

Aconitum productum, Reichenb.; Ledeb.
l.c.; Dc. l.c. Arakanthethene Island.

There were collected in different localities plants belonging apparently to the three species above-named, but the Blights differencies in the form of the hood and spur, the greater or less length of the points of the helmets, the denseness or laxness of the raceme, and the difference in pubescence, seem hardly sufficient data on which to establish three species. They all probably belong to A. Napellus.

Aconitum Lycocotonum, Linn.; Ledeb. l.c.
Trautv. & Meyer, Fl. Ochot. sin Biddaud. Sibir.
p. 11. Ayan, J. Small.

The specimens are of two forms one rather stout, erect; raceme densely many-flowered; flowers light yellow. The other is slender, with few leaves and a raceme with few, distant, smaller, light greenish flowers; perhaps A. Lycoctonum, var. rannunculoides, Turcz. Fl. Baik. I, p. 48.

Papaveraceæ.

Papaver alpinum, Linn.; Trautv. Fl.

Taimyr. sp. 60, (in Middend. Sib.). P. alpinum,
var. nudicaule, Ledeb. Fl. Ross. 1, p. 87. P. nu-
daule, Dc. Prod. 1, p. 117. Arakamschitchene
and Herats Islands.

(9)

Fumariaceæ.

Dicentra tenuifolia, Dc.; Ledb. D. tenui-
folia & lachenaliaeflora, Gedeb. Fl. Ross., I, p.
97. Dielytra tenuifolia & lachenaliaeflora, Dc.
Syst. 2, p. 111, & Prod. 1, p. 126. Fumaria
tenuifolia, Gedeb. in Mem. Acad. St. Petersb. 5,
p. 550. Corydalis tenuifolia, Pursh, Fl. 2, p.
462. - Ayan. on bare hillsides. J. Small
"Flowers pink"

The specimens of this interesting little plant all belong to the D. lachenaliaeflora as that is distinguished by De Candolle, none of them having quite so short pedicels nor so blunt lobes to the leaves as D. tenuifolia according to the description by De Candolle and the figure in Dilect. Ic. Sel. 2 t. 9. But the differences indicated rest upon such insufficient materials and such imperfect comparisons, and relate to points so unlikely to be constant that we have no hesitation in uniting the two supposed species, as Ledebour was inclined to do. In doing this the name tenuiflora is preferred as having been earlier used, both by Gedebour and by Pursh, for both forms; and as being particularly appropriate. The numerous and very fine specimens

were collected by Mr. Small on the first of September, and are all in flower.

Corydalis pauciflora, Pers. Syn. 2, p. 69; L. Prod. 1, p. 127; Deless. Ic. Pl. 2, t. 9; Hook. & Arn. Bot. Beechey, p. 121; Ledeb. Ic. Pl. Alt. 5, t. 450, & Fl. Ross. 4, p. 97.

Var. exigua: tenuior; foliis submembraneaceis; calcare adscendente cylindraceo recto vel parum incurvo. — Cratkanuschetchene Island.

I was not myself so fortunate as to find this plant; but a few specimens were brought in by Purser W. B. Boggs. Like those from the Island of St. Lawrence, of which the acute Ledebour noticed the peculiarities, these specimens differ not a little from the Siberian plant, and still more from Delesset's figure. The leaflets are much shinier, the flowers still fewer, and the long and the large spur, strikingly ascending, proportionally thicker towards the base, more regularly cylindraceous, and nearly straight, instead of incurved; so that we are not surprised that Ledebour should have questioned its really belonging to C. pauciflora. That, we may add, is erroneously represented in Delesset's figures as to the shape of the corolla; for the spur is, in fact, much longer than the limb, instead of much shorter, as it is depicted Ledebour's figure rightly.

represents the flower. The corolla in our plant is purple.

Corydalis ambiguus, Cham. & Schlecht.,
in Linnaea, 1, p. 558; Hook. & Arn. Bot. Beechey,
p. 112; Ledeb. Fl. Ross. 1, p. 101. Petropavlovski;
on hills in damp and rich soil.

The plant accords well with Chamisso's specimens. Flowers purple. Raceme varying from two to six inches in length. Strophiole of the seed obovate and entire.

Corydalis paucifolia, Pers. Syn. 2, p. 869;
Dc. Prodr. 1, p. 269; Cham. & Schlecht. l. c.; Ledeb
~~l. c.~~ Fl. Ross. l. c. Tschantar Island, J. Small; on
shady hillsides

var. humilis; subpedata, foliis multo
minoribus. Ayan in valleis, J. Small.

Plant of extraordinary size for the genus; the foliage well compared with that of a Paeonia. The thick tuberous root is nearly two inches in diameter at the crown, where it is invested with thin scales, abruptly narrowed below; corolla purple. In the variety, as we doubt not it is, the leaves of the smaller specimens are only 5 to 6 inches long including the petioles, and the leaflets small in proportion. But the plant is young.

Corydalis pauciflora Pers. Encycl. 2, p. 69. 86. Prodr. 1, p. 127
Aru Kamtchechem I.

(12)
Brassicaceae.

Barbara vulgaris, R. Br.; Dc. Prod. l. c.

l. p. 140; Leob. Fl. Ross. l. p. 114; Hook. Fl. Bor. Am. l. p. 39. Petropavlovsk. Coal Bay Small

Arabis hirsuta, Scop.; Dc. Prod. l. c.,

Leob. Fl. Ross. l. c.; Hook. Fl. Bor. Am. l. c.

Western coast of Yesso, J. Small Petropavlovski.

Arabis Kamtscharica, Fisch.; Leob. Fl. Ross. l. c.

A. lyra, var. Kamtscharica, Dc. Prod. l. p. 146. ~~sys~~

Sisymbrium arabidoides, Hook. Fl. Bor. Am. p. p.

63, t. 21. Petropavlovski.

We have specimens varying very much in form and size; from those with a single slender stem furnished with 4-6 linear-lanceolate leaves, the lower commonly incised or toothed the upper entire; to those which are stouter, very much branched and exactly resembling Hooker's figure of Sisymbrium arabi-
doides. They are all furnished, at base, with a rose
ulate cluster of leaves more or less lyrate dissected,
though those of the smaller specimens are sometimes
nearly entire. The cotyledons are incumbent and the elong-
ated pods are erect. It is probably specifically dis-
tinct from the A. lyra of the White Islands as sug-
gested by Dr. Gray in ^{the} Manual of Botany p. 33.

(13)

- Cardamine bellidifolia, Linn.; Dc. Prodr.
1, p. 150; Ledeb. Fl. Ross. 1, p. 123; Torr. & Gray, Fl.
1, p. 84; Fruct. Fl. Tasmania, p. 54 (in Middend. Sib.)

Arakansechihem Island.

The ^{numerous} specimens with well-grown fruit vary
from less than inch to three or four inches in
heights.

Cardamine purpurea, Cham. & Schlecht.
in Linnaea, 1, p. 20; Hook. Fl. Bor. Am. 1, p. 44.

Var. abiflora: glabra; foliis non angulato-
uni-dentatis; Stylo brevi. — Arakansechihem
Island.

Our specimens are mostly from two to five
inches high, from a long creeping root, with about
five leaves, not strictly radical, but scattered at
about equal distances along the lower part of the
stem; a few serrate but the greater number quin-
ately pinnate; the terminal ^{leaflet} mostly orbicular
in outline slightly three-lobed; the lateral ones oval,
entire, or with one or two short lobes or teeth. Raceme
of rather large white flowers somewhat compact, (some
fruiting specimens particularly so) the lowest flower
in one or two cases subtended by a bract or reduced
leaf.

Notwithstanding the points of difference indicated
above there is little doubt that our plant is a variety
of Chamessia. b. purpurea; an unfortunate name

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in any case, since the color of the petals is not likely to be constant. For example, those of *C. pratensis* and *C. thomsonii* in the United States vary from deep rose-color or purple to pure white. On the other hand our specimens differ from *C. angulata* of Hooker only in their smaller size and in their pinnate leaves almost uniformly of five leaflets. But some of Dr. J. M. Bigelow's specimens from the Sierra Nevada of California are quadrifoliate; and the suite of specimens in Dr. Gray's herbarium leads to the conclusion that *C. angulata*, ~~Hook.~~ & *C. paniculata* Benth. are forms of one polymorphous Western American species which ranges from the eastern side of Behring's Straits to California.

Luidamine pratensis, Linn.; D. C. Prod.
1, p. 151; Hook. Fl. Bon.-Cen. 1, p. 45, var. au-
gustifolia; Ledeb. Fl. Ross. 1, p. 125; Granti.
Fl. Taimyr. (in Middlew. Siber.) p. 54; Rupr.
Fl. Samoied. cissural. No. 34. Arakantschelchean
Island. Coal Bay. J. Small

Luidamine hirsuta, Linn.; D. C. Prod.
1, p. 152; Hook. Fl. Bon.-Cen. 1.c.; Ledeb. Fl. Ross.
1, p. 127. Petropavlovski.

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A form with remarkably undivided leaves; only the lowest being pinnately-paikid.

Lentaria tenuifolia, Ledb. Mem. Acad.

Petersb. 5; 1815, p. 547; Gb. Prod. 1, p. 156; Hook. Fl.
Bor.-Am. 1, p. 56; Trauto. M. Cebot. (in Middendorf,
Sibir.) p. 16. Shantar Island, J. Small.

The leaflets of the caudine leaves (radical ones wanting) are broader than they are represented in the descriptions and figures; the tubers are much compressed and plane-concave.

Parrya macrocarpa, R. Br. in Parrys 1

voy. App. p. 268; Trauto. Fl. Taimyr. (in Middendorf
Sibir.) p. 55. P. macrocarpa, var. glabra, Hook. Fl.
Bor.-Am. 1, p. 47. Damp stony hills, Coal Bay,
J. Small. Irakamtschetscham Island.

There seems to be nothing in the descriptions of P. Linneana, Ledb. Fl. Ross. 1, p. 131, and P. macrocarpa of sufficient importance to constitute them distinct species, and some of our plants (allowing for the lengthening of the raceme with age,) exactly answer to the figure in Tinn. Amoen. Acad. 2, f. 20, except that the petals are obtuse, while they resemble the figures in Hook. l.c. except as to the pubescence, so closely as to leave no doubt that they are the same species. Most of the specimens, however, as well flowering as fruiting

ones have the leaves narrowly lanceolate and entire, notwithstanding they were collected at different stages of growth and in ^{different} ~~the same~~ localities.

Draba algida, Adams; Fl. Prod. I, p.

167. Hook. Fl. Bon. Am. I, p. 150; Ledeb. Fl. Ross. I, p. 146; Trautv. Fl. Taimyr. (in Middle, Siber.) p. 56. Arakamtschekhene Island, in fruit.

And, var. racemo laxo 3-5-floro; pedicelles elongatis; siliculis hispidulis immaturis linearis-oblongis in stylum longiusculum attenuatis. Arakamtschekhene Island, in flower & young fruit.

In the leaves with their margins fringed with long and bristly hairs, and in most of their characters our specimen accords with D. algida, of which we have not seen the fruit. But they are pretty large (scapes often four inches high); the flowers or silicles on rather long ~~peduncles~~ pedicels; and the style is not very short. The fructiferous plant here referred to this plant here referred to this species has its silicles from 3 to 4½ lines in length, varying ovate-oblong to broadly oval. The variety with its immaturer silicles from 4 to 5 lines long on pedicels fully 3 lines long, if rightly referred to this species must resemble the var. macrocarpa of Ledebour.

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Draba alpina, Linn.; Dc. Prod. l. c.,
Hook. Fl. Bon-Am. l. c.; Ledeb. l. c.; Trautv.
Fl. Taimyr. (in Norddeut. Sibir.) p. 57. On stony
hills, Arakamtschetsche Island.

The silicles are broadly oval; otherwise
the specimens agree with the Norwegian plant.

Draba affinis, Ledeb. Fl. Ross. I, p. ~~114~~
148. Arakamtschetsche Island.

Perhaps too near to D. repens, Biebr.

Draba nivalis, Lepl. in nov. act. Acad.
Imp. 6, p. 47, t. 2, f. 2. D. mucella, Nakkenb. Fl.
Lapp. p. 174; Dc. Prod. l. c. Arakamtschetsche Island.

Our plant differs from D. nivalis in no
respect except that the pods are rather too short.
(From D. frigida, found in this region by the
Russian Botanists,) it differs in the perfectly
leafless scapes and closely canescent (not toment-
ose) leaves.

Draba hirta, de Cand.; Dc. Prod. l. c.; Hook.
& Arn. Bot. Beechey, p. 121; Fl. Bon-Am. I, p. 52.
Fl. Taimyr. (in Norddeut. Sibir.) p. 58.
Arakamtschetsche Island

Draba incana, Linn.; Hook. Fl. Bor.-
Am. I, p. 54; Ledeb. Fl. Ross. l. c.; Rupr. Fl.
Sarm. Cisural. No. 29. D. confusa, Gl. Prod. l. e.
Franck & Meyer, Fl. Cehst. (in Middew. Sib.) p. 16.
West coast of Yesso, J. Small.

Draba gracilis, Ledeb. Fl. Ross. l. e.

D. confusa, var. paeonifolia, Gl. Prod. l. e. Petropau-
lovsk. Arakamschetsene Island.

Draba stenoloba, Ledeb. Fl. Ross. I, p. 154.

D. hirta, var. siliquosa, Cham. & Schlecht. in Lin-
naea, I, p. 23. Arakamschetsene Island.

Draba nemorosa, Linn.; Gl. Prod.
l. e.; Ledeb. Fl. Ross. l. e. Locality uncertain

Cochlearia oblongifolia, Gl. Syst. 2, p.
363; Ledeb. Fl. Ross. l. c.; Janus Rupr. Fl. Sarm.
Cisural. No. 24. ~~G. acuticaulis~~ Transv. Fl. Tarnys. (in
Middew. Sib.) p. 58. Yansk Gulf, J. Small
(Arakamscheschem Island)

Cochlearia Anglicum, Linn.; Ledeb. Fl.
Ross. l. e.; Hook. Fl. Bor.-Am. I, p. 57. Younghi
Island

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Cochlearia Danica, Linn.; Dc. Prod. I, p.
173; Hook. Fl. Bor.-Am. C. c. Herbarium, Office
ers of the Vincennes, Arakamtschekine Island.

Thlaspi cochleariforme, Dc. Prod. Syst.
2, p. 381; Ledeb. Fl. Ross. l. c., ~~Hook. Fl. Bor.-Am.~~
1, p. 58. Shantar Islands, J. Small

The wing is not conspicuous as represented in Desessarts figure (Dc. 2, t. 52.) in fact it is nearly
obsolete and the lower leaves are without serrations.

Sisymbrium sophioides, Hook. Fl. Bor.-Am.
1, p. 61, t. 20; Ledeb. Fl. Ross. I, p. 181; Trautv. Fl.
Tamyr. (in Middend. Sibir.) p. 39. On pebbly beach-
es near the sea, Arakamtschekine Island.

Crysimum cheiranthoides, Linn.; Dc.
Prod. I, p. 198; Ledeb. Fl. Ross. I, p. 89; Trautv.
and Meyer, Fl. Chots. in Middend. Sibir. p. 18;
Rupr. Fl. Samoyed. Lusural. No. 35. Petropavloski.

Bryza purpurea, Bunge in Ledeb.
Fl. Ross. I, p. 195; Trautv. Fl. Tamyr. in Middend.
Sibir. p. 60. Platypetalum purpurea, R. Br. in
Parry's J. Voy. App. p. 268; Hook. Fl. Bor.-Am. I,
p. 66, t. 28. Arakamtschekine Island.

Our specimens differ from the figure in
Hooker l. c. in having much narrower leaves

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and pods, the latter varying from $2\frac{1}{2}$ to 5 lines
in length and from minutely pubescent to quite
glabrous.

Eutrema Edwardsii, R. Br. in Parry's
J. Voy. p. 267 t. A; Zedek. Fil. Alt. 3, p. 163;
Hook. Fl. Bon.-Am. I, p. 67. Draba lewisia,
Cham. & Schlecht. in Griseb., I, p. 25. Cruckshank
etchem Island.

Violaceæ, (A. G.)

Viola Selkirkii, Pursh (vide Coll. Jap. p. 1); var. Kantschatica. V. Kantschatica, Ging. in Linnaea, I, p. 406; Ledeb. Fl. Ross. I, p. 245. Petropavlovskie.

The specimens, although larger than the imperfect ones communicated by Chamisso to Gingins, can hardly fail to belong to V. Kantschatica. But they accord with V. Selkirkii of Canada (which seems undistinguishable from V. umbrosa, Fries), and, (judging from the figure, V. imbutis, Ledeb.), except that the appendages of the sepals are narrower and not ciliate at the base, and the large spur does not broaden scarcely broadens downward.

Viola palustris, Linn.; Ledeb. Fl. Ross. I, p. 247. Petropavlovski (~~Flora~~ ~~Botanica~~ light purple, with dark veins). Bain Kamtchatche Island: a smaller-flowered form.

Viola sylvatica, Fries (var. sylvestris, Lam., Koch); var. Kantschatica, V. canina var. Kantschatica, Ging. in Linnaea, I, p. 407.

Petropavlovski.

The specimens well accord with large-flowered forms of the V. sylvatica of Fries, except in the ~~stipules~~ broad, oblong or even ovate, and ~~laciniæ~~ toothed rather than fringed stipules. Trautvetter and Meyer notice a similar form in the Flora Ochotensis.

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Droseraceæ.

Parnassia palustris, Linn. Fl. Prod.
1, p. 320; Lweb. Fl. Ross. 1, p. 262; Traub. 8^{te}
Meyer, Fl. Cetoz. in Nordwest. Sibir. p. 19; Rupr.
Fl. Samoyd. Cisural. No. 45. Coal Bay. J. Small

Parnassia Kotzebuei, Cham. & Schlecht.
in Tunnea, 1, p. 549; Lweb. Fl. Ross. l. c.; Hook.
Fl. Bor. Am. 1, p. 83, t. 28. Arakamschetschene
Island.

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Caryophyllaceae

Dianthus ripens, Willd. Spec. 2, p.
681; Hook. & Arn. Bot. Beechey, p. 122; Ledeb.
Fl. Ross. I, p. 281; Seem. Bot. Herat, p. 27, t.
4i Trautv. & Meyer, Fl. Cehot, in Middendorffia,
p. 20. In cervices of rocks near the sea J. Small

The petals are lacinate-toothed rather
than crenato; otherwise the numerous fine speci-
mens accord well with Seemann's figure. The
calycine bracts are more commonly shorter than
longer than the calyx.

Silene acaulis, Linn.; Ledeb. Fl. Ross.
I, p. 303; Hook. Fl. Bon-Am. I, p. 87; Rupr. Fl.
Samojed. Cesural. No. 50. Stony hills, Brakandek-
etshem Island.

Silene panicifolia, Ledeb. Fl. Ross. I.
p. 306.

var. uniflora; foliis angustissimis, radical-
ibus linearis-pustulatis. Akakamchitcheve Island,
also on table-lands at Coal Bay, J. Small.

Densely cespitose. The flowering stem, 3 or 4
inches high from thick and tufted caudexes, slender,
glabrous, as is the whole plant. Radical

and lower caudine leaves about an inch long, the dilated upper portion or blade little over a line in breadth; the one or two upper caudine pairs 3 or 4 lines long, subulate or filiform from a dilated base, blackish, villosociliate. Peduncle about half an inch long, erect. Calyx vesiculænflated, broadly campanulate, 10-nerved, not reticulated, 7 or 8 lines long; the teeth uniformly broadly ovate or rounded. Petals light purple; their claws dilatœ-coneiform, glabrous, acuminate-dilated at the summit, bearing a very small two-parted crown; lamina deeply obcordate, 4 lines long, two-cleft rather than two-parted, the lobes obtuse, entire. The flowers of this handsome plant are considerably larger than in *S. turgida*, the leaves much narrower, the stamens and claws of the petals are glabrous, &c. Our specimens agree with Ledebour's description of *S. panicifolia* in all respects except in the points indicated. At the same time, they so nearly approach the character of his *S. stenophylla*, as to render it probable that it is no more than a variety of the present species with a rather narrower calyx entire petals, &c.

This is doubtless var ^{*graminifolia* Ott} *stenophylla* of Regel. H. G. Radde to which species to which are reduced. *S. viscidulus* Hornem. *S. graminifolia* Regel. *S. stenophylla*, *panicifolia*, *turgida*, *graminifolia* Schleiden in Ledeb. Fl. Ross. also *S. panicosa*, *umbrosa*, *tehuus*, *obsophylla*, *chamaephyllus* Lindl.

Silene inflata, Sm.; Ledeb. Fl. Ross.
l.c.; Hook. Fl. Bon-Am. I. p. 90; Traub. and
Meyen, Fil. Ochot. in Middendorf. Silir. p. 20.
Cayam, J. Small.

A tall and large-leaved state of the species,

Silene procumbens, Murr. Comm.
Ges. 7, t. 2; Ledeb. l.c. Fabius Bag.
J. Small

S. procumbens Murr var?

Silene Ochotensis, (sp. nov.);
cespitosa, tenuster puberula; caulis
e canaliculi multicipitate plurimi spithameis
gracillimis laxis ad apicem usque folia-
tis unifloris; foliis conformibus mem-
branaceis linearibus basi subattenuatis; sum-
mis pedunculam florae nusanti dimidio
breviorum bis superantibus; calyx cylin-
dricus campanulatus 10-nervi, dentibus
ovatis obtusimarginatis; petalis fanea coron-
atis, lamina obovata retusa, vel emar-
ginata, unguibus glaberrimi. Hillsides

J. Small

A well marked species with the foliage
nearly that of a Stellaria or Moenchuria,
the habit and character somewhat intermediate

between the sections *Bekenanthe* & *Rupipraga* and *Heliosperma*; the capsule and seeds unknown. Cauline leaves 4 or 5 pairs rather glaucous, uniform, about an inch long and a line and a half broad, sessile by somewhat connate bases; the radical similar but tapering into a petiole. Calyx 5 or nearly 6 lines long, thin & more or less inflated not reticulated between the nerves. Petals pink; the lamina 3 or 4 lines long. Stipe not half the length of the oblong-linear and completely one-celled ovary.

Silene repens, Potsin in Pers. Syn.
1, p. 500; Ledeb. Fl. Ross. 1, p. 308, & Ic. Fl.
Ross. t. 425; Trautv. & Meyer. Fl. Ural. C. c.
p. 21. from Bayam Gla Bay. J. Small.

According to Mr. Small, the collector, the calyx is purple and the petals yellowish-white. The latter, it may be remarked, have barely any trace of the crown; in other respects the specimen accord with the Siberian plant.

Melandrium apetalum, Fenzl. in Grub.
Fl. Ross. 1, p. 326; Trautv. Fl. Yenisei. in Mid-
der. Sibir. p. 53. *Lychinis apetala*, Linn. sp.
326; G. Prod. 1, p. 386. Arakanoschetchem Island

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Sagina Gunnai, Pustj; Levob. fl.

Ross. I, p. 839; Rupr. Fl. Samoja, Cisural.

No. 57. Spigula saginoides, Linn. Sp. 631;

De. Prod. I, p. 344. Arakamschetschen Island

Alosia verna, Bartl.; Levob. fl. Ross.

I, p. 347; Trautv. am Ussuri, fl. Cekut, in Nib-
den. Sib. p. 21; Rupr. Fl. Samoja et. Cisural.

No. 58. Arenaria costata & Arenaria verna,

Anet. Petropavlovski and Arakamschetschen
Island.

Four rather distinct varieties occur
in the collection; var. glacialis, sepals very
strongly nerved; pedicels glandular-pubescent;
stems one-flowered: var. Kirtay, very smooth;
stems one-flowered; another form larger and
more diffused of the same variety, and a more
leafy, very pubescent, slender form with the stems
from one to four-flowered and the leaves very
strongly three-nerved.

Alosia macrocarpa, Gensl; Levob.

fl. Ross. I, p. 353; Trautv. fl. Taimyr, in Nibden.

Sib. p. 51. Arenaria macrocarpa, Anet.

Cool Bay, J. Small. Arakamschetschen?

Ulmus arctica, Griseb.; Fl. Ross.
L. e.; Frantz. Fl. Taimyr. in Middend. Sibir.
p. 51. Arenaria arctica, Auct. Arakamch-
tchetchene Island.

A densely cespitose form has long slender very leafy branches; leaves broad, strongly falcate, distinctly nerved, beset especially at base with a few long cilia: a second similar to this has much narrower smooth leaves and no sterile branches; a third has the sepals obovate very obtuse dark red; pedicels elongated; all have one-flowered stems.

Honkenya peploides, Ehrh.; Gedeb.
Fl. Ross. 1, p. 358; Frantz & Meyer, Fl. Cehot.
in Middend. Sibir. p. 21. Arenaria peploides,
Auct. Iwanai, W. coast of Yesso, J. Small.
Arakamchetchene Island.

Merckia physodes, Fisch.; Hork.
Fl. Bor.-Am. 1, p. 103; Torn & Gray, Fl. 1. p. 176
Arenaria physodes, Leach, D. P. Dr. 1, p. 413.
Arakamchetchene Island.

Manning

Moenckringia lateriflora, Fenzl; Ledeb.

Fl. Ross. I, p. 371; Trautv. & Meyer in Middew.

Sib. Fl. Ochot. p. 22; Rupr. Fl. Samoja.

Cesural. No. 60. Arenaria lateriflora, G.

Prodr. I, p. 412; et Auct. Arakamtschetschev
Island.

Stellaria crispa, Cham. & Schlecht.

in Linnaea I, p. 57; Hook. Fl. Bon-Am. I, p. 97;

Ledeb. Fl. Ross. I, p. 382; Torn. & Gray, Fl. I, p. 186.

Fabius Bay, J. Small.

Stellaria gracilis, Richardson in Frankl.

1. Tourn. Ed. 2, Ap. p. 17; Hook. Fl. Bon-Am. I,
p. 97. Arakamtschetschev Is land.

The flowers are on long, slender peduncles,
often in the bifurcation of still longer leafy sterile
branches, which are terminated by a bulb, (or
(transformed flower-bud?)

Stellaria longipes, Goldie; Ledeb. Fl.
Ross. I, p. 386. Arakamtschetschev Island.

There are two pretty well-marked varieties;
one with linear leaves and single-flowered stems,
pedicels short; the other with broader leaves, & stems
bearing from 1 to 4 flowers on long peduncles.

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Stellaria Florida, Fisch., Ledeb. Fl. Ross.
1, p. 385; Fl. Prod. 1, p. 399; Stellaria Fischeriana,
Ser. in Fl. Prod. L. e. Cow Bay, J. Small.

Stellaria humifusa, Roskbl.; Ledeb. Fl.
Ross. 1, p. 408; Fruct. & Mogen Fl. Cehot. p. 23
in Middle Siberia; Rupr. Fl. Samoyd. Cisural.
No. 61. Arakanstschetchev Island.

Cerastium vulgatum, Linn.; Ledeb.
Fl. Ross. 1, p. 408; Rupr. Fl. Samoyd. Cisural.
No. 72. Arakanstschetchev Island.

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Geraniaceæ.

Geranium erianthum, DC. Prodr. 1, p. 641; Hook. & Arn. Bot. Beechey, p. 113; Godb. Fl. Ross. 1, p. 464; Traub. & Meyer. Fl. Cekotz. p. 25; in Middew. Siber. Coul Bay & Yenisek Gulf, J. Small. Peter-pavlovskii.

Portulacaceæ.

Claytonia acutifolia, Willd.; Ledeb. ²H.

Ross. 2, p. 147; Fl. Prod. 3, p. 361. C. arctica

Tamyr. Fl. Taimyr. p. 46 in Middew. Sib'.

Coral Bay, J. Small. Arakantschekene
Island.

The specimens from the latter locality
show all intermediate forms of leaves, from those
that are linear, to such as an broad lanceolate;
with the latter the plants from the former locality
also agree. The caudex varies from the thickness
of a goosequill to that of the thumb.

Montia fontana, Linn.; Ledeb. ³H.

Ross. 2, p. 152; Fl. Prod. 3, p. 362.

Arakantschekene Island.

Zygaminosae.

Phaea australis, Linn.; Ledb. Fl. Ross.
1, p. 577; Dc. Prod. 2, p. 274?

Arakamtschatchine Island.

The specimens ^{plants} agree quite well with authentic specimens except that the leaflets are pretty generally linear-lanceolate and more or less hairy.

Oxytropis Montesiana, Turez. Ledb. Fl.
Ross. 1, p. 589. O. Impillya, Cham. in Gingea,
6, p. 546; Dc. Prod. 2, p. 278. Arakamtschatchine
Island.

Oxytropis campestris, Dc.; Ledb. Fl.
Ross. 1, p. 590; Dc. Prod. 2, p. 278 exel. var. ^{S. G.}
Fabius Bay, J. Small. Arakamtschatchine
Island

We have from the latter locality two forms, of which one has very small leaflets, revolute on the margin, and sparsely pubescent, flowers purple; the other has larger, more pubescent leaflets and yellow flowers. The specimens from Fabius Bay are larger every way, very striking, silky pubescent, with yellow flowers and densely black pubescent legumes.

(33*) after Cogniaux

Astragalus alpinus, Linn.; Ledeb.

Fl. Ross. I., p. 701; Trautv. & Meyer, Fl. Sib. p. 27

in Nioden. Sib.; Rupr. Fl. Samoj. Cisural. No. 81.

Phaea astragalina, Hooker Ann. Bot. Bucley, p. 122

Flowers purple. On stony hills, Arakanutchene Island.

Phaea aboriginum Hook. fl. Bor. Am. I., p.

143, t. 56. Torn. & Gr. Fl. N. Amer. p. 346

Arakanutchene Island. On sandy flats. Our specimens are recorded as having yellow flowers white in Torn. & Gr., they are said to be white tinged with blue. The spike are fewer flowered & the leaflets rarely half an inch long.

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~~Oxytropis Malensis~~ D.G.

Oxytropis Mertensiana D.G. Astr. p. 55, No 3, Prod.

O. archieae R Br. Ann. Parry's Voy. p. 278? D.G. Prod. 2, p. 267?

On stony hills. Arakamscheken I.

Our specimens in size pubescence &c compare well with the smaller N. Asiatic forms: in the black hairs of the calyx & the pod with those from Northern America but are much less caudate. The margins of the leaflets are remarkably broad & revolute. The peduncles are densely pubescent slightly willow. Hl. purple or violet

Oxytropis Mertensiana Trin. in Bull. de la Soc. des

Nat. & des Mus. 1840, p. 68. Ledeb. Fl. Ross. 1, p. 589. O. turgida
Schne. in Linnaea 6, p. 456 (from Rus.)

Arakamschekene I. on stony hills Hl. violet

Oxytropis lewinii D.G. Astr. p. 59, No. 10; Prod.

2, p. 278. Ledeb. Fl. Ross. 1, p. 590. O. sordida D.G. Prod. p. 2, p. 276

Shrubs of the Okhotsk See J. Small. Arakamscheken I.
The specimens exactly correspond to northern forms both
American & Asiatic

Oxytropis

Oxytropis borealis, Hc. Lestev. p. 55,
No. 3; & Prod. 2, p. 276; Tschb. Fl. Ross. 1, p. 593.
O. arctica, Hook. & Arn. Bot. Benth., p. 122. &
Hook. Fl. Bon.-Am. 1, p. 146; ex Lindl.
Arakamtschikine Island.

Pisum maritimum, Gunn.; Lindl. Fl.
Ross. 1, p. 661; Dc. Prod. 2, p. 368; Frank. & Beyer
Fl. Cetw. p. 27 in Middew. Sibir. Arakamsche
Schem Island. Pesopantovskie

Besides the ordinary state a very small
 was collected by Purser W. B. Boggs. This has the
 leaves less than half an inch long, oval, very ob-
 tusely mucronate or apiculate, rather incon-
 spicuously veined, and minutely pubescent.
 The bracts are obliquely subcordate, as large as
 the leaflets and without serratures.

Lathyrus palustris, Gunn.; Dc. Prod. 2, p. 371;
Lindl. Fl. Ross. 1, p. 686; Frank. & Beyer, Fl. Cetw.
p. 29 in Middew. Sibir. Arakamtschikine Island.

Hedysarum boreale, Mutt.; Dc. Prod.
1, p. 343; Hook. Fl. Bon-Am. 1, p. 155; Gorn. & Gray,
Fl. 1, p. 456. Coral Bay, J. Small. Arakam-
Schem Island.

Rosaceæ.

Spiraea betulafolia, Pall.; Ledeb. Fl.
Ross. 2, p. 14; Dc. Prod. 2, p. 544; Trautv. &
Mayer, Fl. Cehot. p. 15 in Middendorf. Sibir.
Ayan, J. Small. Arakamtschetschen Island.

Spiraea Aruncus, Linn.; Ledeb. Fl.
Ross. 2, p. 16; Dc. Prod. 2, p. 545; Trautv. &
Mayer, Fl. Cehot. l.c. Petropavlovski.

Dryas octopetala, Linn.; Ledeb. Fl.
Ross. 2, p. 20; Dc. Prod. 2, p. 549; Torn. & Gray
Fl. 1, p. 420; Trautv. Fl. Taimyr. p. 47 in
Middendorf. Sibir. Arakamtschetschen Island.

A form with small leaves, not narrowed
but tunecat, or even subcordate, at the base.

Dryas integrifolia, Nahl; Ledeb. Fl.
Ross. l.c.; Hook. Fl. Bor.-Am. 1, p. 174; Torn. &
Gray, Fl. l.c. Arakamtschetschen Island.

The short, tufted stems are very
densely clothed with leaves. The peduncles
are from one-half inch to one and a half inches in
length, and the flowers, when fresh, were yellow.

Dryas integrifolia l.c.

Sanguisorba officinalis, Linnaeus; Ledeb.
H. Ross. 2, p. 27; Trautv. & Meyer, H. Ochot.
p. 35. Ayan; in marshy valleys.

Sanguisorba tenuifolia, Fisch.; DC.
Prodr. 2, p. 593; Ledeb. L.C.; Trautv. & Meyer,
L.C. Ayan.

Flowers pink and nearly white.
A small state of the species, with broader
leaflets than usual, truncate or subcor-
date at the base, but nearly semile, the
calyx nearly glabrous.

Gemm striatum, lit.; Ledeb., H. Ross.
2, p. 22; Trautv. & Beyer, Fl. Ural. p. 32 in
Middlew. Sibir. Petropanovski.

Sierversia glacialis, R. Br.; Cham. &
Schlecht. in Grimm 2, p. 5; Ledeb., H. Ross. 2,
p. 25; Hook., Fl. Bor.-Am. 1, p. 176; Trautv.
H. Tamm, p. 47 in Middlew. Sibir.
Arakamschetchene Island.

Sierversia Rossii, R. Br.; Cham. &
Schlecht. in Grimm ² p. 5; Hook., Fl. Bor.-Am.
1, p. 176. Gemm Rossii, Dc. Prod. 2, p. 553; Torn.
& Gray, Fl. 4, p. 424. Arakamschetchene Island.

Sierversia ammonoides Willd. Hook., Fl. Bor.
Am. 1, p. 176. Ledeb., Fl. Ross. 2, p. 24. Torn. & Gray, Fl.
N. Amer. 1, p. 423

Shores of the Okhotsk Sea J. Small

Potentilla Norvegica, Linn.; Ledeb. Fl.
Ross. 2, p. 36; Gk. Prod. 2, p. 573; Trautv. au
Meyer, Fl. Cehot. in Abiden. Sibir. p. 32.
Ayan, J. Small. Petropavlovski.

(Rev. Bot. p. 44, t. 15.)

Potentilla stolonifera, Lehm.; Ledeb
Fl. Ross. 2, p. 38; ~~P. fragarioides~~, Charn. & Schlecht.
in Linnaea, 2, p. 25; Hook. & Arn. Bot. Beechey,
p. 113; ^{non Linnaea} Petropavlovski.

Potentilla austera, Linn.; Ledeb. Fl.
Ross. 2, p. 44; Gk. Prod. 2, p. 582; Trautv. &
Meyer, Fl. Cehot. p. 33 in Abiden. Sibir; Rupst.
Fl. Tomg. & Cisural. No. 91. Arakamsche-
rhene Island.

Potentilla nivea, Linn.; Ledeb. Fl.
Ross. 2, p. 57; Gk. Prod. 2, p. 571; Lehm. Rev.
Potent. p. 165. Arakamsche rhene Island.

The larger specimens are at least 1
nun inches high; the stems are from three to
five, & have from one to five flowers. The largest
leaflets are but little more than half an inch long.
A much smaller variety has the 1-2 flowered stems 1-3
inches high, and the leaflets are hardly half as large
as those of the former, with fewer and deeper serrations.

Potentilla villosa, Pall. in Lamkst. herb. ex

Pursh. Fl. Bor.-Am. 1, p. 353; DC. Prodr. 2, p. 573;
Lindb. Fl. Ross. 2, p. 58; Hook. Fl. Bor.-Am. 1, p.
194; Torn. & Gray Fl. 1, p. 442; Lehm. Potent. p.
166, t. 16. P. villosa, var. gracilis, Hook. Am. Bot.
Beechey, p. 123. Yansk Gulf & Fabius Island,
J. Small. Arakanscheschen Island.

The variety was obtained as the first locality,
the ordinary forms as the others.

Potentilla biflora, Willd.; Lindb. Fl. Ross.
2, p. 61; DC. Prodr. 2, 586; Hook. Fl. Bor.-Am. 1, p. 195;
Torn. & Gray, l.c. Arakanscheschen Island

Potentilla fruticosa, Linn.; Lindb. Fl.
Ross. 2, p. 61; DC. Prodr. 2, p. 574; Torn. & Gray, Fl. l.
c. Coal Bay & Ayan, J. Small. Arakanscheschen
Island

Potentilla elegans, Cham. & Schlecht. in
Linnaea, 2, p. 22; Lindb. Fl. Ross. 2, p. 56.
Arakanscheschen Island.

Rubus arcticus, Linn.; DC. Prodr. 2,
p. 565; Lindb. Fl. Ross. 2, p. 70; Hook. Fl. Bor.-Am.
1, p. 192; Torn. & Gray, Fl. 1, p. 451. Coal Bay &
Fabius Bay, J. Small. Arakanscheschen Island.

(39)

Rubus Chamænosorus, Linn.; Ledeb. Fl.

Ross., 2, p. 71; Dc. Prod. 2, p. 565; Hook. Fl. Bor.
Am. l. c.; Torr. & Gray, Fl. l. c.

Arakamschetsche Island.

W. men. . . . cinnamomea L? var. mayatis?

Rosa alpina, Linn.; Ledeb. Fl. Ross.

l. c.; Dc. Prod. l. c.; R. cicutaria, L. Griseb.

& Mayr, Fl. Cehot. p. 36 in Middew. Sibir. p. 36

Ayan, J. Small.

Rosa cinnamomea, Linn. Ledeb. Fl.

Ross. 2, p. 76; Dc. Prod. 2, p. 605; Griseb.

Mayr, Fl. Cehot. p. 36 in Middew. Sibir.

Petropavlovski.

Pyrus sambucifolia, Cham. & Schlecht.

in Linnaea, 2, p. 36; Ledeb. Fl. Ross. 2, p. 99; Hook.

& Am. Bot. Beechey, p. 114; Torr. & Gray, Fl. l. p. 472. Coal Bay, Ayan, J. Small.

Arakamschetsche Island.

(40)

Onagraceae.

Epilobium angustifolium, Linn. Hook.

Fl. Bor.-Am. 1, p. 205; Ledeb. Fl. Ross. 2, p. 105;
Trautv. & Meyer, Fl. Cehot. p. 27 in Middendorffia.
Rupr. Fl. Samojid. censural. No III. Cape Roman-
zoff, N. coast of Yesso & Jamsk Gulf, J. Small.

Epilobium lasiocarpum, Linn.; Ledeb.

Fl. Ross. 2, p. 106; Fl. Prodr. 3, p. 40; Hook. Fl.
Bor.-Am. 1, p. 295; Torn. & Gray. Fl. 1, p. 487;
Trautv. & Meyer, Fl. Cehot. p. 38 in Middendorffia. Sibir.
Coul Bay, J. Small. Arakanschetschen
Island.

Epilobium palustre, Linn.; Fl. Prodr.

3, p. 43; Ledeb. Fl. Ross. l. c.; Trautv. & Meyer, l. c.
Coul Bay, J. Small.

Epilobium origanifolium, Lam. Fl. Prodr.

3, p. 41; Ledeb. Fl. Ross. 2, p. 111; Hook. Fl. Bor.-
Am. 1, p. 206. A few specimens were mixed with
E. palustre.

Epilobium affine, Linn. Bong.; Ledeb.

Fl. Ross. 2, p. 110. Petropavlovskii.

(41)

Epilobium alpinum, Linn.; Ledeb.
Fil. Ross. l.c.; Fl. Prod. 3, p. 41; Hook. Fl.
Bor.-Am. 1, p. 205; Trautv. Fl. Fairmn. p. 47.
in. Modem. Sibir.; Rupr. Fl. Samoyd. Cis-
ural. No. 108. Arakanschetschen Island.

Kipsenia montana, Ledeb. in Reichenb.
Ge. Bot. 1, p. 71, t. 86. f. 181; Fl. Prod. 3, p. 71;
Hook. Fl. Bor.-Am. 1, p. 218; Torr. & Gray, Fl.
U.S. 531. Margin of pools, Arakanschetschen
Island.

Callitrichia verna, Linn. Fl. Prod.
3, p. 70; Hook. Fl. Bor.-Am. 1, p. 217; Rupr. Fl.
Samoyd. Cisural. No. 112. Sandy flats near
the sea side. Arakanschetschen Island.

Grossulaceæ.

Ribes nigrum, Linn.; Ledeb. Fl.
Ross. 2, p. 200. N. Dikuscha Fisch.?
Trautv. & Meyer. Fl. Ocht.? Mantar
Blad. in fruit.

(417)

Grassalaceæ.

Wullicus spinosus, Dc. Prod. 3, p. 400;
Lod. Fl. Ross. 2, p. 174; Traunw. & Meyer, Fl. Cehot.
p. 38 in Middew. Sib. Fl. yellowish-green. On rocks
near the sea side, Shantar Island. J. Small

Sedum elongatum, Lod. Fl. Cehot. 2, p. 193 &
Fl. Ross. 2, p. 178; Hook & Arn. Bot. Beechey, p. 114. 123?
Rhodiola elongata, Traunw. & Meyer, Fl. Cehot. l. c.
Coal Bay, J. Small. Asakamtschka Island.

Sedum Rhodiola, Dc. Prod. 3, p. 401; Lod.
Fl. Ross. 2, p. 179; Traunw. Fl. Taimyr, p. 46 in Middew.
Sib. Rhodiola rosea, Rupr. Fl. Samoyd. Cisural. p. 118.
Coal Bay, Western Kamtschaka, J. Small. Fl. purple.

Sedum cyaneum, Rudolphi; Dc. Prod. 3, p.
404; Traunw. & Meyer, Fl. Cehot. l. c.; Coal Bay Lod.
Fl. Ross. 2, p. 182. Coal Bay, Yamsk Gulf, J. Small

Sedum hispanicum, Linn.; Lod. Fl. Ross. l. c.;
Dc. Prod. 3, p. 402; Traunw. & Meyer, l. c. Fl. yellow
Mountain sides, Ayam. J. Small

(41^{xx}) after S. Eschholzii

Sayipraga Merkic; Fisch.; Lindb., H.
Ross., 2, p. 208; Dc. Prod. 4, p. 24; Cham. in Tunneac,
6, p. 556. Flowers white. Coal Bay, in ravines.

J. Small

The plants are too young to show very clearly the
inflation of the capsules and the calyx is quite smooth;
otherwise they agree well with the description.

(42)

Saxifragaceæ.

Saxifraga oppositifolia, Linn.; Ledeb.

H. Ross. 2, p. 204; H. Prod. 4, p. 18; Don, Saxifr. p. 400; Torn. & Gray, H. 1, p. 563; Hook. Fl. Bor. Am. 1, p. 242. Arakamchetschen Island.

Saxifraga bronchialis, Linn.; Ledeb.

H. Ross. 2, p. 207; H. Prod. 4, p. 47; Trautv. H. Yainyn. p. 41 in Middew. Silir; Hook. Fl. Bor. Am. 1, p. 564. Arakamchetschen Island.

The tufted form of the leaves is not as described by Don is not observable in our specimen nor is it noticed in other authors.

Saxifraga nitida, Schreb.; Ledeb. H. Ross.

H. Prod. 4, p. 22. S. cherleroides, Don, Saxifr. p. 382; S. pseudo-bursinaea, Torn. & Gray, H. 1, p. 563; Yamak Gulg. J. Small

Saxifraga Eschscholtzii, Stevnb.; Ledeb.

H. Ross. 2, p. 208; H. Prod. 4, p. 18; Hook. Fl. Bor. Am. 1, p. 243; Torn. & Gray, H. 1, p. 564. Arakamchetschen Island.

Saxifraga Hirculus, Linn.; Ledeb.

H. Ross. 2, p. 210; H. Prod. 4, p. 44; Hook. Fl.

(43)

Bor.-Am. 1, p. 292; Grauw. Fl. Taimyr. Fl.
p. 43 in Modden, Sib. in Coal Bay, J. Small
Arakamchekine Island.

Saxifraga stellaris, Linn.; Lidib.

Fl. Ross. 2, p. 211; Fl. Prov. 4, p. 40; Hook. Fl.
Bor.-Am. 1, p. 250; Grauw. Fl. Taimyr. p. 43
in Modden, Sib.; Don, Say ijr. p. 356.

Coal Bay, J. Small. Arakamchekine Island

The specimens all belong to the var. comosa, Poir.

Saxifraga Davurica, Pall.; Lidib., Fl.

Ros., 2, p. 212; Hook. Fl. Bor.-Am. 1, p. 250; Fl.
Prov. 4, p. 38; Bonn. & Gray, Fl. 1, p. 569; Don,
Say ijr. p. 388. Coal Bay, J. Small. Arakam-
chekine Island

Though the plants from the above localities
are apparently quite unlike they seem to be included
in the description and annexed observation of
Lidiboury, i.e. If, as is very probable they are
only one very variable species they may as well
embrace S. pauciflora, Stevnb., S. neglecta, Bray,
and S. flabellifolia, R. Brown, as they certainly do,
if we may judge from the figure & description S.
reflexa, Hook. The specimens from Western Kamt-
chaka have the inflorescence corymbose-paucilate,
the calyx erect, and the ovaries short; those from

Bering's Straits, on the other hand, have the flowers truly racemosous on rather long, slightly spreading pedicels; the calyx strongly reflexed; and the ovaries long; the petals of the former are white, of the latter dark red. In height, in the form & arrangement of the leaves, and in the degree of pubescence, both sets of specimens, very well agree.

Saxifraga nivalis, Linn.; Dc. Prod. 4, p. 38; Turb. Fl. Ross. 2, p. 213; Hook. Fl. Bor.-Am. 1, p. 248; Trautv. Fl. Taimyr. p. 43 in Middend. Sibir.; Don, Saxifr. p. 387.
Arakamchetchene Island.

Saxifraga helvetica Waldst. & Kit.;
Fl. Ross. 2, p. 214; Dc. Prod. 4, p. 39; Hook. Fl. Bor.-Am. 1, p. 249; Trautv. Fl. Taimyr. p. 44 in Middend. Sibir.; Don, Saxifr. p. 383.
Arakamchetchene Island. Petals dark crimson, anthers orange

Saxifraga pumosara, Linn.; Hook. Fl. Bor.-Am. 1, p. 251; Turb. Fl. Ross. 2, p. 215.
Coal Bay, J. Small. Petropanovskii. Arakamchetchene Island.

Han

To this doubtless belong *S. astivalis*, Fisch., as well as *S. Nelsoniana* & *S. arguta*, Don; but probably not *S. heterantha*, Hook., (*S. astivalis*, var. *S.* Torr. & Gray, Fl. 1, p. 568,) which is well distinguished by Gedebour. Small's specimens are a large part of those from Behring's Straits, as well as those from Peterpaulovski, attain a height of a foot & even more, with leaves two inches in width, on petioles three inches long. The others from Behring's Straits are only from two to five inches high, with leaves hardly half an inch wide, on petioles half an inch to an inch in length. The larger form has the filaments dilated, while those of the smaller are subulate.

Saxifraga nudicaulis, Don, Journ. p. 366; Ledib. Fl. Ross. 2, p. 216; Dic. Prod. 4, p. 37; Hook. Fl. Br.-Am. 1, p. 253; Torr. & Gray, Fl. 1, p. 568; Fabius Bay, J. Small, Arukanoskechene Island.

The somewhat orbicular-reniform leaves are mostly less than half an inch broad, not palmate, but only coarsely dentately 5-9-lobed to about one-third of their length. The petals are very light pink. The plants vary from two to seven inches in height.

(46)

Saxifraga cernua, Linn., Sib. Fl.
Russ. 2, p. 219; St. Prodri. 4, p. 36; Hook. Fl. Bor.
Am. 1, p. 245; Griseb. Fl. Taimyr. p. 44 in
Mordovia, Sibir.; Tom. & Gray, Fl. 1, p. 573.
Heracl Island, Offshore of the Vincennes. Arakant-
shchene Island.

The plants from Heracl Island are sparingly
bulbiferous in the axils and have the lower orbicular
and caulin subreniform leaves with fewer and
broader rounded or obtuse very short teeth or
lobes. Another form has the axillary bulbils
producing abundantly little orbicular or slightly
three-lobed leaves.

Saxifraga bracteata, Don, Sax. gr. p. 367:
Caulibus ex radice fibroso ad scandentibus
viscidovillosis basi saepe perulae-bulbiferis,
usque ad apicem foliatis; foliis conformatibus
membranaceis reniformibus inciso(5-9)
lobatis arebellinum ~~punctatissimum~~ punctatis,
summis breviter inferioribus longissime
petiolatis; floribus 3-5 in axilli foliorum
summorum vel bractearum solitariis compactis
breviter seu brevissime pedunculatis; petalis
(albis) obovatis simplicissime triplinerviis
calycis laevioris ovatis obtusis longioribus
capsula semi-supera apice emarginata

biloba; *stigmatis* *capsitatis* *sessili-*
bis. Yunnan-ki an isles near Irakam-
 i-chishene Island

This is no doubt Don's *I. bracteata*,
 found on a specimen gathered by Merck,
 somewhere in the Eastern Siberia and preserved
 in the herbarium of Pallas, but which has hitherto
 otherwise remained wholly unknown to bot-
 anists. Our specimens are all in fruit, but
 with the stamens & the withered petals often
 remaining. The flowers are mostly shorter
 than the leaves which subtend them and
 rather large; the capsule being 3 or 4 lines long.
 A peculiarity unnoticed by Don is found in the
 large scaly gemmae, either sessile or on
 short succelli at the base of the stem. These
 are made up of broad *plagianthaceous*
 scales, which are a sort of dilated stipules,
 as many of them are continued from a notch
 at the summit into a short petiole, bearing
 a diminutive blade. The lower caulin
 petioles are more or less scarious dilated
 at the base. In these and some other respects
 the plant is evidently a near relative of *I.*
vaginalis, *Yuris*, in Ledeb. *H. Ross.* 2, p. 220.

(48)

Saxifraga sibirica, Linn.; Ledeb. Fl.
Ross. 2, p. 224; Dc. Prodr. 4, p. 36; Hook. Fl.
Bor.-Am. 1, p. 246; Torn. & Gray, Fl. 1, p.
574; Trautn. Fl. Fauny &c p. 45 in Weddell.
Sibix. Herald Island, offcoast of the Vincennes.
Arakanstschetchev Island

The plant from the former locality has
larger leaves and flowers and is more diffuse in
habit as if it grew in the shade; while the others
are rigidly erect with very many stems from
the caudex, smaller leaves & sometimes smaller
flowers. Stems of the former with one, of the latter
with from one to three flowers.

Saxifraga selengensis, Stevnb.; Ledeb.
Fl. Ross. 2, p. 224; Hook. Fl. Bor.-Am. 1, p.
246; Torn. & Gray Fl. 1, p. 566. S. hypnoides Z.
condensata, Serunge in Fl. Prodr. 4, p. 31?
Arakanstschetchev Island.

Chrysosplenium Kantschaticum, Schlecht. pat.
in Herbe Wills.; Fisch. in Fl. Prodr. 4, p. 48.
(vide Jap. Coll.) Petropanovskii.

Chrysosplenium alternifolium, Linn.;
Ledeb. Fl. Ross. 2, p. 226; Fl. Prodr. 4, p. 48

(49)

Yunnan, Hs. Yainyr, p. 45 in Boddend. Siliv.
Herald Island, Officer of the vineenes. West
coast of Kamtschatka, J. Small. Arakamts-
chetsene Island.

Small's plant has the caudine leave,
somewhat deeply 3-5 forked or lobed and throws
out from the caudex stoloniferous branches.
The specimen from Behring's Straits are
erect, those from Herald Island spreading,
and the stems & petioles are densely villose
pubescent.

Ranunculaceae.

Erypodium alpestre, Ledeb. Fl. Alt. I, p. 354;
Fl. Ross. 2, p. 248; Ic. Pl. Ross. t. 7, Ayan, J. Small

The plant is only in flower & hence too young to be determined with certainty, but it accords well with the detailed description in Ledebour's Flora Altaica and with the figure in the Icones Florae Rossicae of the same author.

Bupleurum ranunculoides, Linn.; Ledeb. Fl.
Ross. 2, p. 265; Hook. Fl. Bor. Am. 1, p. 263; G. Prodr
4, p. 131; Torr. & Gray, Fl. 1, p. 609. Coal Bay, J. Small

Sigillaria Scoticum, Linn.; Ledeb. Fl.
Ross. 2, p. 286; G. Prodr. 4, p. 157; Hook. & Arn. Bot.
Beechey, p. 115, 125. Yamal Gulf, J. Small. Petrow-
paulski.

Conosilium Fischeri, Nimmer & Grubowksi;
Ledebour Fl. Ross. 2, p. 290; G. Prodr. 4, p. 164;
Hook. & Arn. Bot. Beechey, p. 124; Hook. Fl. Bor.-Am.
1, p. 266. Fabius Bay, J. Small.

Archangelia Gmelini, G. Prodr. 4, p. 170
Hook. Fl. Bor.-Am. 1, p. 267; Torr. & Gray, Fl. 1, p. 621.
Galeopleuron Gmelini Ledeb. Fl. Ross. 2, p. 361.

(51)
Phycodermis sayabilis, Turcz. ~~H.~~ Frank. & Mayer,
Zool. Cehov. p. 44 in Middendorff. Sibir. Azakantiske-
Tschere Island. [See Suppl. Crit.]

Cornaceæ.

Cornus suecica, Linn. Ledib. H. Ross.

2, p. 377; D. Prod. 4, p. 274; Torn. Oljag. Fl. 1,
p. 653; Hork. Fl. Bon-Am. 1, p. 227; Trantow
Meyer, Fl. Cehot., p. 45; in Middendorf, Sib. ir.
Cool Bay, J. Small. Petropavlovskî, Anatcauscher
^{Chine Islyan.}

The specimens from Petropavlovski attain,
 in some instances, the height of seven inches, with
 four or five pairs of leaves, the upper ones often having
 small axillary branches; those from the other places are
 only from two to four inches high and unbranched.

Cornus canadensis, Linn.; Ledib. Fl.

Ross. 2, p. 378; D. Prod. 4, p. 274; Hork. Fl. Bon-Am.
^{Trantow, Meyer, Fl. Cehot. p. 45 in Middendorf, Sibir.}
1, p. 227; Iyan, J. Small.

Cuprifoliaceæ.

Sambucus racemosa, Linn.; Ledb. Fl. Ross., 2, p. 383; Fl. Prod. 4, p. 322; Hook. Fl. Am. 1, p. 279; Griseb. & Meyer, Fl. Cehot. p. 46, in Middew. Siber. Petropavlovski.

Lonicera nigra, Linn.; Ledb. Fl. Ross., 2, p. 389; Fl. Prod. 4, p. 335; Hook. & Arn. Bot. Beechey, p. 115. Petropavlovski.

The specimen very uniformly show the flowers as long as the pedicels, and pretty well grown fruit with its pedicels not more than one third as long as the leaves.

Lonicera acerulea, Linn.; Ledb. Fl. Ross., 2, p. 390; Fl. Prod. 4, p. 337; Griseb. & Meyer, Fl. Cehot. l. c.; Hook. & Arn. Bot. Beechey, p. 115. Petropavlovski.

Linnæa borealis, Gronovii; Ledb. Fl. Ross., 2, p. 392; Fl. Prod. 4, p. 340; Hook. & Arn. Bot. Beechey, p. 125; Griseb. & Meyer, Fl. Cehot. l. c. Felkistoff Harbor, Je Small. Irakantschikone Island

The insular plants have their leaves two times and less in length and the flowers but little longer, while the leaves & flowers of those from the eastern side Okhotsk sea are more than twice the size.

Diesovilla Middendorffiana, Gray.

(Vide Japan, Coll. p. 1.) Calyptrostigma
Middendorffianum, Trautv. & Meyer, Fl.
Ochot. p. 16. t. 25, a, b. Ryan, Ochotsk
Sea. J. Small; in fruit.

~~Although the~~

We have not seen the flowers. Even if a normal state is correctly represented in the Flora Ochotensis, Dr. Gray does not hesitate to refer this plant to Diesovilla (including Weigela). The lobes of the calyx in our specimens, although sometimes united in the manner represented, are ~~very various~~ ^{characte-} ~~combined in other wise~~ as often free nearly to the base and regular, or else various and irregularly combined. Although persisting on the back of the fruit they ~~probably wither and fall~~ appear to fall off at last. Cypsile ^{or ovule} ~~ovule~~-pisiform, half an inch long, abruptly narrowed into a beak of about 2 or $2\frac{1}{2}$ lines in length. Seed very numerous, oblong or lanceolate in form, the ~~the~~ wing ~~say~~ ^{say} many times larger than the nucleus.

(53')

Rubiaceae.

Galium boreale, Linn.; Ledeb. Fl.

Russ. 2, p. 412; DC. Prodr. 4, p. 600; Traub. &
Bayer. Fl. Cedoz. p. 48 in Abord. Sib. Spansk
Gul. J. Small. Petropavlovski

Galium verum, Linn.; Ledeb. Fl. Ross.

2, p. 414; DC. Prodr. 4, p. 603; Traub. & Bayer, l. c.
Felkisoff Harbov, J. Small. Petropavlovski.

(53")

Valerianaceæ.

Valeriana capitata, Pall.; D. B. Prodr.

Ap. p. 437; Ind. Fl. Ross. 2, p. 435; Braun. & Breyer,
Fl. Taimyr. p. 40 in. Thoddent. Sibir.; Rupr. Fl.

Samoy. censur. No. 146. Ayan, J. Small.

Arakamschikine Island.

(34)

Compositae, Am. A. Gray.

Nardosmia frigida, Hook. Fl. Bor.
Mueller Mu. 1, p. 307; Ledeb. Fl. Ross. 2, p. 467.
Tussilago frigida, Linnaeus.

Nar. corymbosa. N. corymbosa, Hook.
l.c. Tussilago corymbosa, R. Br. in Parry's
Jour. p. 269. Bra Kanta Chet Chine Island,
on hill sides (Flowers light purple.)

Lessing was doubtless right in
reducing N. corymbosa to N. frigida.
The differences are merely in the degree
of toothing or sinuation of the leaf, and
are of ~~the~~ no specific account. N.
Agillata is clearly but another form
of the same species, and even N. pal-
mata may not really be distinct.

Aster Sibiricus, Linnaeus var. subintegra-
rimus, Trautv. Fl. Progr. in Middeld. Sibir.
p. 161. A. Richardsonii, Gray; DC. Prod. 5.
p. 229; Hook. l.c.; Ledeb. l.c. A. Esperber-
gensis, Nees; DC. l.c. A. montanus, Richard, in
Frankl. Journ. Ruprecht. Fl. Samoj. A. Prescottii,
Linol. in DC. l.c.; Ledeb. Fl. Ross. 2, p. 476. Ara-

(35)

Kamtschacke Island, Bla Bay, Ochotsk
Sea, near lat. 60°.

The specimens from Behring Straits are simple and only 3 or 4 inches high; the others are taller and sometimes a little branched. All of them have the aspect of dwarfed states of a larger species; and Trautvetter has probably rightly referred the plant to *A. Sibiricus*.

Erigeron uniflorum, Linn.;
Ledeb., Fl. Kors. 2. p. 490. *E. pulchellum*
var. *Uralaschense*, D. C. Prod. 5. p. 287.
Kamtschacke Island. (Rays
white or light purple.)

Erigeron elongatum, Ledeb. Fl.
Alt. 4. p. 91, Fl. Kors. 2. p. 487, & Z. C.
Fl. 1. t. 31; Trautv. & Meyen, Fl. Ochot.
p. 50. (Samisk Gulf and Agan,
Ochotsk Sea; in valleys near the sea.
(Rays purple.)

Whole plant glabrous; in places
puberulent-glandular. Rays purple,
rather long.

Solidago Virgaurea, Linn.; Ledeb.
Fl. Kors. 2. p. 493. Petropavlovsk;

also Coal Bay, west coast of Kamtchatka. Agan, Ochotsk.

Var. multiradiata, Torr. & Gray, Fl. L. p. 207. S. multiradiata, Sit. D. Virginica var. arelica, Ledeb. l.c. Amakantchetchen Island.

The larger forms, ^{some of them} nearly approach S. Thymoides and have equally glabrous achenia. The higher northern specimens all belong to the var. multiradiata. Judging from the way the species varies in the Old World it ~~ought~~ should probably include ^{our} S. numilis also.

Achillea (Pternica) Sibirica, Ledeb.
Cat. Dorp. 1811, & Fl. Nov. l.c.; Trautv. & Meyer,
Fl. Ochot. l.c., sub Pternica. Pternica
Mongolica, Fisch. in St. Prodr. b. p. 22. A.
multiflora, Hook. Fl. Birm. Ind. p. 318; Torr.
& Gray, Fl. L. p. 408. Pamuk Gulf,
Ochotsk Sea; in valleys.

This is certainly the same as the Arctic American plant, A. Richardsonis A.
Pternica. It is probably A. serrata of
Petz (Pternica serrata, DC.), as Ledebour

suspects.

Leucanthemum integrifolium, Sc.
Prod. 6, p. 45. & 7, p. 296; Ledeb. Fl. Ross. 2,
 p. 540. Clercyanthemum integrifolium,
Richard, in Frankl. Journ.; Struk. Fl. Bor.-
Am. 1, p. 319, diag. Arakan Chetchene
Bland.

Leucanthemum arcticum, Sc.
Prod. 6, p. 45. Fl. Ochot. p. 52.
L. c. L. arcticum & L. Gmelini,
Ledeb. L. c. Arakan Chetchene Bland.
Gansk Gulf, ^{and Oval Bay, Agut'schakka,} on the shore
 The specimens, especially those
 from the gulf, manifestly unite
Ledeborii L. Gmelini with L. arcticum

Leucanthemum Sibiricum, Sc.
L. c.; Ledeb. L. c.; Kuprecht, Fl. Samoj.
Sisural. p. 42. Ayan, Ochotsk
Sea. Rays bright purple.
 Even this may pass through L. Gmelini
 into L. arcticum. But the leaves are
 thin, ~~and~~ bright green, and more divided.

Tanacetum vulgare, Linn.; var.

boreale, Trautv. & Meyer, Fl. Ochot. p. 54. ~~T.~~ T. boreale, Fisch. in D. C. Prod. b. p. 128; Ledeb. Fl. Ross. l.c. Wet table-land, Coal Bay, on the west coast of Kamtschatka.

Tanacetum Pallasiianum, Trautv.

& Meyer, Fl. Ochot. p. 55. Artemisia Pallasiiana, Fisch. in D. C. l.c. p. 116. Ayon Bay; on bluffs near the sea.

The specimens accord well with Trautvetter and Meyer's description, and were gathered in the same region. The flowers are yellow and altogether those of Tanacetum.

Artemisia borealis, Pall., Fl. 3. p. 73.

t. 11. p. 1; Bess. in Novik. & D. C.; Ledeb. Fl. Ross. 2. p. 569; Trautv. & Meyer, Fl. Ochot. p. 53. Petropavlovski, Kamtschatka; and Arakantschene Mts.

In various forms, all rather large and well developed. One of them, from Kamtschatka 11. 75^{ft.} is remarkably evolute, and forms a compound panicle, a foot high. The heads consequently rather smaller, the involucral scales granish.

It accords very well with Bessis's var. *Mertensii*. At the same time it is undistinguishable from his *A. communata*, & at least ^{as to} the American plant, which is only a northern state of *A. Canadensis* of Michaux.

Artemisia Norvegica, Fries, Novit.
ed. 1. (1817), p. 56, & ed. 2, p. 265, & Summ. Veg.
Scand. p. 185; Reichenb. 2e. Brit. t. 89.

Nor. *arctica*, A. *arctica*, Less. in
Linnæa, b. p. 213; Dc. Prodr. b. p. 119; Stuck. &
Ann. Bot. Buch. p. 125; Ledeb. l. c. R. Cham-
isianiana, Besser, in Stuck. l. c. Janisk Gulf,
Ochotsk, in vallis near the sa. Tra-
Kantchechene Island, on hills, and a
large form on grassy flats near the t-
shore.

Some of the forms, although larger than the Norwegian plant, confirm Stuck's suspicion, and lead us to refer *A. arctica* to *Norvegica* without hesitation. The base or tube, but not the apex, of the corollas is beset with very long villous hairs.

Artemisia vulgaris, Linn., var.
Filesii, Ledeb. Fl. Ross. 2. p. 586. A.
Filesii, Ledeb. in Mem. Acad. Petersb.;
 Dc. l.c.; Torr. & Gray, l.c.; Trautv. & Meyer,
 l.c. Coal Bay, West coast of Kamts-
 chatka ('flowers yellow'). Petropanuloski,
 Arakantchekene Island.

Artemisia glomerata, Ledeb. in
 Mem. Acad. Petersb. & Fl. Ross. l.c.; excl.
 sp. Nork. & Arn. Bot. Stony hillsides,
 Arakantchekene Island.

Silky-canescens with a fine appressed pubescence. Corolla sparingly hairy
 on the outside of the lobes.

Artemisia Sericea, Besser,
 Suppl. p. 64; & Dc. Prodr. 6. p. 116; Ledeb.
 l.c. A. Semiarvensis, Besser. Abt. p. 15.
A. glomerata, Nork. & Arn. Bot. Breck. p.
 423, non Ledeb. A. androsacea, Seemann,
 Bot. Herald. p. t. . .

With the last; abundant on stony
 hills.

Dr. Seemann has confirmed the
 doubt expressed in the Flora of North America,

by showing that, as was suspected, the specimens from Kotzebie's Sound referred to *A. glomerata* by Hooker and Arnott, do not belong to that species. He has described and admirably figured the plant, under the ~~the~~ characteristic name of *A. androsacea*. We cannot doubt, however, that it was already published, under the name of *A. Senjavinensis*. The numerous and very fine specimens before us were gathered at a station ~~near~~ about half way between the two at ~~from~~ which *A. Senjavinensis* has been collected. The cotyledons, yellow when fresh, are glabrous, but dotted with ^{scattered} resinous glands. The leaves in the smaller specimens vary from entire to three-clft; in the larger ones those of the tufts are deeply 3-5-clft, and very densely and strongly silky-villous.

Antennaria alpina, N. Br. : Torr.
Flay. Pl. 2. p. 430 (incl. var. B.?) ; Ledeb.
Pl. Ross. 2. p. 611. Arakanit chetchene
Island.

and) Some specimens are monocephalous,
 but the ~~set~~ scales of the involucres (in

female plants) are all slenderly acuminate, lived, and scarious. They clearly belong to *A. monosiphala*, DC. Other specimens, otherwise the same have two, three, and four heads.
~~that~~ The plant from Labrador which Dr. Steller has communicated under the name of *A. monosiphala*, has the inner involucral scales obtuse and whitish; and it must be a variety of *A. Barbatica*.

Ligularia Sibirica, Cass.; DC., Prod., b. p. 315; Ledeb. Fl. Ross. 2. p. 620; Trautv. & Meyer. Fl. Ochot. p. 56. Nyan Bay, Ochotsk Sea.

Gacalia hastata, Linn.; DC. l. c.; Ledeb. l. c.; Trautv. & Meyer. l. c. Nyan Bay; with the preceding.

Gacalia auriculata, DC. l. c.; Ledeb. l. c.; Trautv. & Meyer. l. c. Tuklis-topp Harbor, Shantar Island, Ochotsk Sea, on shaded hillsides.

Slender forms with a simple raceme,

and 4-5-flowered heads; and stouter plants
with crowded, thyrsoid-paniculate, 7-8-
flowered heads. "Flowers white".

Arnica alpina, Læstadv.; Less.
in Linnaea, b. p. 235; Ledeb. Fl. Ross. l. c.
A. angustifolia, Wahl. Arakantchetchene
Island.

Senecio frigidus, Less. in Linnaea,
b. p. 239; DC. Prod. b. p. 347; Stark. Fl. Bon-
nu. l. p. 334, t. 112; Torr. & Gray. Fl. 2. p. 445;
Ledeb. Fl. Ross. 2. p. 632; Trautv. Fl. Tungr.
p. 39. Cineraria frigida, Richards.
App. Frankl. Jour. p. 20; Stark. & Arn. Bot.
Wiedeck. p. 126. Hillsides, Arakantchetchene
Island. (Folia integerrima, obovata
vel spatulata publius floccosa - ~~to~~ -
lanata.)

Var. dentatus: ~~glabri~~ foliis glabris
vel ~~se~~ glabratis oblongo- vel linearis lan-
cedatis plenisque acutis, caulinis pre-
sertim argute dentatis, involucro lana-
densa intricata (brunnea) vestito. — Ara-
kantchetchene Island.

The first form is the same as Chamisso's plant from the island of St. Lawrence, and also like Hooker's figure, ~~only~~
but only half as large in all its parts. The variety, which grows in similar situations is often as large as the figure cited (except as to the heads); but the leaves are mostly bare from an early period, and are ~~remarkably~~ nearly all toothed, the caudine ones pretty strongly so, and acute or tapering from a broader partly-clasping base. The involucre is densely woolly with the purplish brown jointed hairs, as is well described by Lessing and by Ledebour. In the other form ~~they~~ ^{there} are much fewer and shorter, inconspicuous, and under a lens glandular. The pappus in both varies ~~from~~ in length, but generally it scarcely exceeds the slender tube of the disk corolla. It is so closely and strongly denticulate and roughish that the species (along with *S. Pseudo-Arnica*) would probably be ~~better~~ ^{as well} placed in the genus *Aronia*. Like the latter genus, moreover, the rays of the larger heads are frequent by furnished with sterile stamens. This

Species is said to extend into Altai and Dakhuria, and Turezanius, in his Flora Baicalensi-Dakhurica, refers to it De Candolle's *Senecio Turezanius*, the character of which pretty well accords. But our Altai specimen under the name of *S. pigidius* from Bunge, which is probably the "Planta Altaica densius floccosa cornuta", has not only a different kind of wool, but a ~~fine and soft~~ pupillus of much finer and softer bristles, only obscurely and ~~smoothly~~^{it can hardly belong to *S. pigidius*,} denticulate, and pithy as long as the disk-corolla. Variable as that present species is in ~~many~~^{some} respects.

Senecio resedæ folius. Linnæus,
b. p. 243; Hook. l. c. t. 117; Ledeb. l. c. Still-
sides. Brakantchevsk Island.

A great variety of forms as to size and foliage; but all have moncephalous scapes.

Senecio Hookeri. Torr. & Gray. Fl. 2. p.
438? Coal Bay. West coast of Kamtschat-
ka, on table lands.

Senecio octoglossus, Sch. Prodr. b. p. 354; var. Turczaninovii, Fisch. & Lallier, Trautv. & Meyer, Fl. Ochot. p. 57. S. Guckse, var. Turczaninovii, Sch. l. c. p. 353. Ryan Bay, Ochotsk; in ravines.

Senecio Pseudo-Arnica, Less. in Linnaea, b. p. 240; Stork, Fl. Nov.-Am. i. p. 334, t. 113; Torn. & Gray, l. c.; Ledeb. l. c. p. 643; Trautv. & Meyer, l. c. Arakamut-shetshue Island; on sand beaches near the sea.

Stems from 2 to 8 inches high,^{fleshy,} naked below, sending down long and coarse fibrous roots from the lower end. Leafy above, mostly moncephalous; the lowest leaves obovate spatulate and entire. Achene 4 lines long, very smooth, somewhat angled, but only obscurely if at all sulcate.

Gauessurea subsinuata, Ledeb. Sc. Pl. t. b2. & Fl. Ross. 2. p. 662; Trautv. & Meyer, l. c. p. 57. Coal Bay, West coast of Kamtchatka; in ravines and shaded places. Kamtsk Gulf; on hill sides.

Stems a foot and a half high,

Lower leaves broader, and the stem shorter and more leafy than in Ledebour's figure. It would appear to pass into the next; but the receptacle is naked.

Saussurea Tilesii, Ledeb. l. c.

t. 60. Serratula Tilesii, Ledeb. in
Mem. Acad. Petersb. 5, p. 562. Coal
Bay, West coast of Kamtschakka, in
ravines and shaded places.

A tall and thin-leaved state of
the species, with the leaves green on
both sides and nearly glabrous. Stem
a foot and a half high, much exceeding
the radical leaves. Receptacle chaffy
with filiform paleæ.

Saussurea angustifolia, Sb.;
Ledeb. l. c. Arakantchene Island.

Ledebour doubtless admits too
many species. This is his and he ban-
dishes S. angustifolia, although the lower
leaves are sometimes oblong and obscurely
denticulate; but it corresponds with
narrow-leaved specimens of S. alpina
var. rectangulifolia of Hooker, and it appears

to pass into *S. alpina*.

Gcorzonera radiata, Fischer; Ledeb.
Fl. Alt. 4, p. 160, & Fl. Ross. 2, p. 793; Trautv.
& Meyer. Fl. Ocht. p. 58. Valleys and
hillsides, Fabius Bay and Ayam Bay,
Ochotsk Sea.

Hieracium umbellatum, Linn.;
Dc. Prod. 7, p. 224; Ledeb. Fl. Ross. 2, p. 855;
Trautv. & Meyer, l. c. Shaded hillsides,
Ayam Bay.

Mulgedium Sibiricum, Less.
Syn. p. 142; Dc. l. c.; Ledeb. l. c.; Trautv.
& Meyer, l. c. Kamtsk Gulf and Ota
Bay, Ochotsk Sea.

Taraxacum dens-leonis, Desf., Fl.
Alt. 2, p. 228; Dc. Prod. 7, p. 145; Torr. & Gray,
Fl. 2, p. 494. *T. officinale*, Vill.; Ledeb.
l. c. p. 812. Arakanschetschne Island, on
hillsides.

Taraxacum ceratophorum, Dc.
l. c.; Torr. & Gray, Fl. 2, p. 494; Ledeb. Fl.

(69) *Lentodes eratophorum*, Ledeb. Fl. Alt. & Zec. R.
Kor. L. p. 813, ^{1. t. 34.} Arak and Ochechene
Island; on flats.

Campanulaceæ.

Campanula cyathosa, Rudolphi, Traité.

✓ Meyer, Fl. Céhor., p. 60 in Biddem. Libr.; Chamisso & Schlecht. in Linnæa, 6, p. 41. Wahlenbergia hornemanniana, Stev. Prod. 7, p. 425; Lindb. Fl. Ross. 2, p. 871. Fabius Bag, J. Small

Var. dentata: major; foliis ad modum constrictis latioribus et brevioribus, grosse et acutè dentatis, lanceolatis oblongis vel inferioribus obovato-oblongis; corolla caerulea.

In many respects our plant accords with the description given by Chamisso & Schlechtendal. The root is rather thick, and sends up from the crown several stems about nine inches high, at the same time that it throws off stoloniferous branches, furnished with stems at their extremities. The leaves are mostly narrow lanceolate, rather crowded than scattered, furnished on each side above the middle with from two to four more or less salient acute teeth, the lower and the upper smaller than the intermediate ones and none much exceeding an inch in length. The filaments are not perceptibly broader at the base than at the apex & the style is smooth.

Campanula uniflora, Linn.; Le Det. Fl. Ross. 2, p. 890. Takanetetché Shire Island.

Ericaceae.

Vaccinium prastans (Lamk.,
in Linn. Trans. 10, p. 264, t. 9); pygg-
mænum; caule a basi repente gracili
assurgente in formē bracteato ~~api~~
superne 3-5 foliato; foliis late ob-
ovatis ovatis in petiolum subito
contractis reticulato-veneris argute
mucronato-serrulatis ciliatis subtus
ad venas pubescentibus pro planta
magno*bran*is (sequi-bipinnaribus) deciduis;
racemo ³⁻⁵ flor.; bracteis lanceolatis scario-
nis deciduis; calyxis limbo 5-lobo, lobis
ovatis ciliatis; corolla cylindraceo-
campanulata; filamentis pilosis; antheris
inclusis, loculis breviter tubulosis, aristâ
dorsali obsoleta; bæcca ampla 5-locu-
lari. — Western Kamtschatka, on hill-
sides near the sea, probably at Coal
Bay, gathered in the latter part of
July, by I. Small.

The scanty specimens of this very
rare plant are mostly in fruit, like
that of Pallas's herbarium figured by

Lambert; but the remains of a flower
or two serve for completing the
character. It is a true Vaccinium,
of the section Euvaccinium, except that
the filaments are hairy and the dorsal
awn is reduced to short processes. The
corolla is reddish. Ovary and young fruit
5-angled; no vestiges of intermediate parti-
tions. The ascending stems rise only
2 or 3 inches above the surface of the
ground; they rise from ancreeping, probably
subterranean base, ~~at the~~ as in Gaultheria
procumbens. The species it most resembles is V.
cosmetorum, Michx.; but it is much larger in its bran-

~~Definite.~~

Vaccinium Vitis-idaea, Linn.; Ledeb. Fl.

Fl. Ross. 2, p. 901; Fl. Prod. 7, p. 568; Hook. & Arn. Bot. Beechey, p. 116, 127; Trautv. & Meyer, Fl. Oehot. p. 61 in Moden. Sib. Rupr. Fl. Samoyd. Cesural. No. 188. Yamal Gulf, J. Small. Arakamschekhem Island.

Vaccinium uliginosum, Linn. Ledeb.

Fl. Ross. 2, p. 904; Fl. Prod. 7, p. 574; Hook. & Arn. Bot. Beechey, p. 116, 127; Trautv. & Meyer, l. c.; Rupr. l. c. Yamal Gulf, J. Small. Arakamschekhem Island.

Actostaphylos alpina, Spreng.; Fl. Prod. 7, p. 584; Ledeb. Fl. Ross. 2, p. 908; Trautv. & Meyer, Fl. Oehot. l. c.; Rupr. l. c. Arbutus alpina, Hook. & Arn. Bot. Beechey, p. 127. Coal Bay, J. Small. Arakamschekhem Island

Cassiope tetragona, Don; Fl. Prod. 7, p. 611; Ledeb. Fl. Ross. 2, p. 912. Andromeda tetragona, Hook. & Arn. l. c. Arakamschekhem Island.

Cassiope mertensiana, Don; Fl. Prod. l. c.; Trautv. & Meyer, Fl. Oehot. p. 63 in Moden. Sib. Fabius Island J. Small

Phyllodoce sagittifolia, Salisb.; Lidb. Fl.
Ross. 2, p. 916; Fl. Prod. 7, p. 713.
Arakamschetchen Island.

Douglasia procumbens, Desv.; Fl. Prod.
7, p. 714; Lidb. Fl. Ross. 2, p. 918; Traub & Meyer,
Fl. Oehor. l. e. Azalea procumbens, Hook. & Arn.
Bot. Beechey, p. 127. Arakamschetchen Island.

Rhododendron Gapponicum, Wahleb. j. Fl.
Prod. 7, p. 723; Lidb. Fl. Ross. 2, p. 920.
Arakamschetchen Island.

Rhododendron Kamtschaticum, Pall.;
Fl. Prod. 7, p. 726; Lidb. Fl. Ross. 2, p. 922; Hook.
& Arn. Bot. Beechey, p. 116; Hook. Fl. Bor. Am. 2,
p. 43. Coal Bay, J. Small. Petropavlovski.
Arakamschetchen Island.

Sedum palustre, Linn.; Lidb. Fl.
Ross. 2, p. 923; Hook. & Arn. Bot. Beechey, p. 127
Traub. & Meyer, Fl. Oehor. p. 64 in Mordvin. Sib.
Rupr. Fl. Samga, Cisural. No. 191. Arakamschetchen Island.

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Pyrrola rotundifolia, Linn.; Lidib. ^{Fl.} Ross. 2, p. 928; Db. Prod. 7, p. 772; Hork. Am. Bot. Beechey, p. 127; Trautv. & Meyer, l. c.; Rupr. l. c.; Hork. ^{Fl.} Bor.-Am. 2, p. 46 Aukanausche- Schim Island, var. pumila Hork. l. c.; Tas. Bracteata, J. Small, (locality not recorded.)

Pyrrola secunda, Linn.; Lidib ^{Fl.} Ross. 2, p. 930; Db. Prod. 7, p. 774; Trautv. & Meyer, ^{Fl.} Gebot. l. c.; Hork. ^{Fl.} Bor.-Am. 2, p. 45; Ayan, J. Small.

Moneses uniflora, Gray, Man. Moneses grandiflora, Salisb.; Lidib. ^{Fl.} Ross. 2, p. 931; Trautv. & Meyer, l. c.; Pyrrola uniflora, Hork. ^{Fl.} Bor.-Am. 2, p. 46; Db. Prod. 7, p. 775; Ayan, J. Small

Stem with one or two bracts or even bracteolate.

Primulaceæ

Primula nivalis, Pall.; Ledeb. Fl. Ross.

3, p. 10; Fl. Prodr. 8, p. 39; Hook. & Arn. Bot. Beechey, p. 129. Damp hillsides Arakamchetchen Island

var. pumila; Ledeb. l.c. The specimens vary from little more than one to six or even eight inches in height; the base of the leaves and upper part of the scape and pedicels are more or less fawn-colored, and the segments of the calyx on the inner side remarkably so.

Primula borealis, Duby in Fl. Prodr. 8, p. 43;

Ledeb. Fl. Ross. 3, p. 15. P. mistassinica, Cham. & Schlecht. in Linnaea, p. 213; Hook. & Arn. Bot. Beechey, p. 129. Arakamchetchen Island.

Primula cuneifolia, Ledeb.; Duby in Fl. Prodr. 8, p. 39; P. sayragofolia, Fl. Prodr. 8, p. 39; Hook. & Arn. Bot. Beechey, p. 128. Coal Bay and Falmus Bay, J. Small.

Androsace arctica, Cham. & Schlecht. in Linnaea

1, p. 220; Fl. Prodr. 8, p. 48; Ledeb. Fl. Ross. 3, p. 16. On pebbly flats, Arakamchetchen Island.

Androsace Chamaynsme, Koch; H. Prod. 8, p. 51; Lindb. Fl. Ross. 3, p. 18; Hook. & Arn. Bot. Bucey, p. 129. Arakamschetschen Island.

Androsace septentrionalis, Linn.; Lindb. Fl. Ross., l. c.; H. Prod. 8, p. 52; Hook. & Arn. Bot. Bucey, p. 129; Rupr. Fl. Taimyr. Cisural. No. 202. Hillsides, Petropavlovski. Pebby beaches near the sea Arakamschetschen Island.

Dodecatheon pigidium, Cham. & Schlecht. in Linnaea, 4, p. 222; Lindb. Fl. Ross. 3, p. 22; Hook & Arn. p. 129; H. Prod. 8, p. 56. Damp hillsides, Arakamschetschen Island. Part of the specimen collected by Mr. Briggs.

The comparative length of the leaves & petiole seems to form a better specific ~~distinction~~ character than any derived from the tube of stamen. In our plants, the oval leaves are narrowed more or less abruptly into a margined petiole longer than the lamina, while those of D. Meadia are mostly longer and narrower and on much shorter petioles.

Friesia European, Linn.; H. Prod. 8, p. 59; Lindb. Fl. Ross. 3, p. 23; Griseb. & Meyer, Fl. Cehst. p. 67 in Noddeus. Sibir.; Hook. & Arn. Bot. Bucey, p. 116. Petropavlovski.

The leaves are very manifestly ^{the point} decurrent towards,

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Gentianaceæ.

Gentiana austiculata, Pall.; Ledeb. Fl. Ross.
3, p. 55; Griseb. in Dc. Prod. 9, p. 97; Trautv. & Meyer,
p. 67 in Norden. Sibir. In ravines near rivulets,
Koal Bay and on flats near the sea, Taourinsk Gulf
Ola Bay, J. Small.

Gentiana senella, Rottb.; Ledeb. Fl. Ross.
3, p. 56; Griseb. in Dc. Prod. 9, p. 98; Rupr. Fl. Samojd.
Cisural. No. 209. Giglachia, Cham. & Schlecht. in
Sindia, 1, p. 182; Hook. & Arn. Bot. Benth., p. 127.
Flowers purple. Dry hillsides, Arakamtschetschev
Island.

Gentiana propinqua, Richards; Dc. Prod.
9, p. 100; Ledeb. Fl. Ross. 3, p. 57; Hook. Fl. Bor.-Am.
2, p. 62, t. 150. G. Kurikiana, Hook. & Arn. Bot. Benth.
p. 127. Flowers purple. Stony flats near the sea and
on damp hillsides, Arakamtschetschev Island.

Gentiana barbata, Wröhl.; Ledeb. Fl. Ross.
3, p. 59; Trautv. & Meyer, Fl. Oehot. p. 67 in Norden.
Sibir. G. detonsa var. barbata, Griseb. in Dc. Prod.
9, p. 101. Flowers blue. Taourinsk Gulf, Ola Bay and
Ayan, J. Small

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Gentiana prostrata, Henke; Ledb. Fl.
Ross. 3, p. 62; Griseb. in Dc. Prod. 9, p. 106; Cham.
and Schlecht. in Linnaea, 1, p. 183. Flowers purple.
Tardy hilltops near the sea & on damp hillsides
Arakantschene Island.

Gentiana frigida, Henke; Dc. Prod.
9, p. 114; Cham. & Schlecht. in Linnaea, 1, p. 173.
Flowers light greenish yellow with dark bluish-
purple lines and specks on the outer folds of the
corolla. In valleys, Arakantschene Island.

Gentiana glauca, Pall.; Dc. Prod. 9,
p. 111; Ledb. Fl. Ross. 3, p. 66; Hooker Lm. Bot.
Beechey, p. 127; Seem. Bot. Herat, p. 36; Cham.
& Schlecht. in Linnaea, 1, p. 175. Dry hillsides,
Arakantschene Island; also on Yomnaughi
Islet.

Pleurogyne Carninthica, Griseb.; Dc. Prod.
9, p. 122; Ledb. Fl. Ross. 3, p. 71. Flowers ^{bluish} greenish
~~in swamps~~ yellow. Ayan, ~~on hillsides~~. J. Small.

Halenia Sibirica Borkhausen; Dc. Prod.
9, p. 128; Ledb. Fl. Ross. 3, p. 74. Flowers greenish
yellow. Ayan, ~~on hillsides~~. J. Small.

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Swertia obtusa, Ledeb. Fl. Ross. P, p. 75;
S. perennis, Frankl. & Meyer, Fil. Cehot. p. 68 in
Hedden. Libri; D. G. Prodr. 9, p. 132. S. perennis,
var. alternifolia, Cham. & Schlecht. in Linncea,
1, p. 189. Ht. Blue. Flowers blue. Cyan, in ravines
J. Small

Polemoniaceae

Polemonium caeruleum, Linn.; Gl.

Prod. 9, p. 317; Ledb. Fl. Ross. 3, p. 83; Grauh.
v. Muyr. Fl. Cehst. p. 69 in Middew. Sibir; Hook.
v. Arn. Bot. Beechey, p. 127; Siem. Bot. Herald,
p. 37. Fl. blu or bluish-purple. Ryan, J. Small
Arakamcheshene Island, Oval Bay, Kamtschatka,
and

Polemonium pulchellum, Bronge; Ledb.

Fl. Ross. 3, p. 84; Gl. Prod. 9, p. 317; Rupr. Fl. Janap.
Cisural. No. 207. P. humile, Grauh. Fl. Taimyr,
p. 34 in Middew. Sibir; Hook. v. Arn. Bot. Beechey,
p. 116. On sandbeaches, Petropavlovski.

Diaxensis Ypsilonica, Linn.; Ledb.

Fl. Ross. 3, p. 85; Grauh. & Muyr. Fl. Cehst.
p. 69 in Middew. Sibir; Siem. Bot. Herald, p. 37;
Flowers light yellow-sinza with red, Arakamcheshene
Island. Oval Bay on open soft lands, flowers
purple, J. Small

Boraginaceae.

Mertensia maritima, G. Don; Dc. Prod. 10, p. 88; Lidl. Fl. Ross. 3, p. 132; Traub & Meyer Fl. Cehot. p. 69 in Nordens. Sibir.; Seem. Bot. Herbd., p. 37. Lithospermum maritimum, Bot. Beechey, p. 116, 128. On sandbeaches, Arukanschchene Island, Mr. Boggs Petropavlovski, on sandbeaches. Flowers blue.

Mertensia denticulata, G. Don; Lidl. Fl. Ross. 3, p. 133; Dc. Prod. 10, p. 90. Lithospermum denticulatum, Hook & Arn. Bot. Beechey, p. 116, 128. Mertensia pilosa, Seem. Bot. Herbd., p. 37. Flowers purple. Ayan, in vallis. J. Small.

Our plants accord very well with the descriptions and with specimens in Herb. Gray, also with the figure in Lindley's *Genus*, except that it represents a less leafy form.

Nyssinia sylvatica, Hoffm.; Dc. Prod. 10, p. 107; Lidl. Fl. Ross. 3, p. 145; Seem. Bot. Herbd. p. 37; N. alpina, Hook. & Arn. Bot. Beechey, p. 128. Flowers blue. Ayan, in vallis; also Yumuk Gulf.^{J. Small}

The plants from the above localities, at first sight, appear sufficiently unlike to belong to distinct species. Those from the latter place are rigidly erect, from twelve to eighteen inches high, scarcely branched, with two or three rather close-flowered racemes, and

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with even-^{at} ap. bracts, lanceolate, acute, villose-hispid, leaves. The other form, of the same height, has a feeble ascending habit, fewer & broader simply hispid, spreading leaves, with longer & slenderer racemes.

Ostria chrysanthemoides, Alph. Sc. Prod. 10,
p. 125; Tordb. Fil. Ross. 3, p. 149; Heem. Bot. Herat., p.
37, t. 8. Myosotis arvensis, Cham, in Sonnena, 4, p. 443;
Cukum-Satchene Island, on flats near the sea & on
hillsides. A part of the specimen collected by Mr. Boggs.

Seropetalaceae

Puronia surpylefolia, Linn. Benth. in Dc.

Prod. 10, p. 482; Ledeb. Fl. Ross. 3, p. 248.

Petropavlovsk.

Castilleja pallida, Kuntze; Dc. Prod. 10,
p. 531; Seem. Bot. Herbd., p. 37; Rupr. Fl. Samoja.
Cisural. No. 213; Hook. & Arn. Bot. Beechey, p. 128
Fls. near the sea, Arakanschikene Island.

Bartsia alpina, Linn.; Dc. Prod. 10, p.
544; Rupr. l.c.; Ledeb. Fl. Ross. l.c. Flowers
purple. Ayan, in waste grounds. J. Small.

Pedicularis verticillata, Linn.; Dc.
Prod. 10, p. 563; Ledeb. Fl. Ross. 3, p. 270; Rupr.
l.c.; Seem. l.c. Flowers purple. Ayan, J. Small

In several flowers examined the filaments
were beardless.

Pedicularis resupinata, Linn. Wallp.
Rep. 3, p. 418; Griseb. & Meyer. Fl. Cebot. p. 72 in
Madden. Sibiri. Ledeb. Fl. Ross. 3, p. 281. Flowers
pink. Ayan, in vallies, J. Small

Pedicularis euphrasioides, Steph.; Dc.

Prod. 10, p. 567; Lidib. Fl. Ross., 3, p. 284; Wals. Reps., 3, p. 421; Trautv. Fl. Taimyr, p. 72 in Mordov. Silin.; ^{Scen. Bot. Herbar., p. 38} Flowers yellow, on open table lands, Coal Bay, Fabius Bay, ^{2 small} Arakamchukchene Island.

Pedicularis sudetica, Willd.; Lidib. Fl.

Ross., 3, p. 286; Trautv. Fl. Taimyr, p. 32 in Mordov. Silin.; ^{Scen. Bot. Herbar., p. 38;} Dc. Prod. 10, p. 568; Coal Bay. J. Small. Damp hillsides, Arakamchukchene Island, Mr. Boggs. Upper lip of corolla dark red, lower pink, throat speckled.

Pedicularis lanata, Willd. Lidib. Fl. Ross., 3, p. 299; Hork. & Arn. Bot. Buchey, p. 128. Stony hills, Arakamchukchene Island.

Pedicularis versicolor, Wahlenb.; Lidib.

Fl. Ross., 3, p. 300; Trautv. Fl. Taimyr, p. 33 in Mordov. Silin.; ^{Scen. Bot. Herbar., p. 38;} Benth. Benth. in Dc. Prod. 10, p. 578. Coal Bay, J. Small. Damp hillsides, Arakamchukchene Island.

The flowers have the galea marked with red lines; the tube & lower lip are yellow & the anthers green.

Pedicularis capitata, Adams; Lidib. Fl. Ross., 3,

p. 301; Dc. Prod. 10, p. 581; Scen. t. e.; Trautv. t. e. Flowers yellow tinged at the tip with pink. Arakamchukchene Island.

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Orobanchaceæ.

Borhniatia glabra, C. A. Meyer; Dc.

Prodr. II, p. 89; Ledeb. Fl. Ross. 3, p. 323. Orobanche
rossicae, Cham. & Schleicher, in Grunow, 3, p. 132. O.
glabra, Hook. Fl. Bor.-Am. 2, p. 91, t. 167.
Mountain sides in shady places, Hafnia, Bay,
I. Small

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Selaginaceae.

Gymnandva Stelleri, Ohm. & Schlecht.
in Linnaea, 2, p. 563; Ledeb. Fl. Ross., 3, p. 332;
ib. Prod. 12, p. 25; Siem. Bot. Herab., p. 38; Grauto.
Fl. Kamtsch. p. 32 in Middend. Sibir. Fl. bluish-
purple. Anakarschthene Island.

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Plumbaginacee.

Statice Armeria, Linn.; var. arctica,
Ledeb. Fl. Ross. 3, p. 457; Hook. & Arn. Bot. Beechey,
p. 129. Armeria arctica, Seem. Bot. Herat, p. 39;
Transt. Fl. Samoyr. p. 330 in Abidemi. Libiv.; Ruppr.
Fl. Samoyd. Cisural. No. 231. A. Léobra. Boissier
in Dr. Prod. 12, p. 681. Arakumtekhine Islan.

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Polygonaceæ.

Rheum Rhaeonticum, Linn., Gedeb. Fl. Ross
3, p. 496; Meissn. in Denkskr. 14, p. 33. Ayan,
on hillsides & in vallies. J. Small

Cyathia reniformis, Hook.; Wedd. Fl. Ross.
3, p. 498; Traub. Fl. Fairm., p. 28 in Wedd.
Sibir.; Seem. Bot. Verh., p. 39; Hook. & Arn. Bot.
Buckey, p. 129; Meissner in Fl. Prod. 14, p. 37.
Arakamchetchen Island.

Rumex arcticus, Traub. in Fl. Fairm., p. 29;
Wedd. Fl. Ross. 3, p. 506. Damp hillsides, Arakamchetchen Island.

Rumex Acetosa, Linn.; Wedd. Fl. Ross.
3, p. 510; Seem. C. e.; Hook. & Arn. C. e.; Traub.
& Meyer, Fl. Chot., p. 74 in Wedd. Sibir.; Meissner
in Fl. Prod. 14, p. 64. J. Small. Locality not given.

Rumex acetosella, Linn.; Wedd. C. e.;
Meissner in Fl. Prod. 14, p. 61; Rupp. Fl. Samojid. Coss.
ural. No. 240; Traub. Fl. Bozau. p. 155 in Wedd.
Sibir. Damp flats near the sea, Arakamchetchen Island.

The specimens are from one to three inches high, with long linear not auriculate leaves, fasciculate at the base of the stem and more than half its height; the base widely margined with reddish sheaths, which at will or those of the stem are conspicuously inflated.

Rumex graminifolius, Lamb.; Ledeb. Fl.

Ross. 3, p. 512; Meissner in Dc. Prod. 14, p. 64.

Plots near the sea, Arakamchetchen Island.

Koenigia Islandica, Linn.; Ledeb. Fl.

Ross. 3, p. 534; Meissner in Dc. Prod. 14, p. 82.

Rupr. Fl. Samoja. Cesural. No 235. Hillsides, Arakamchetchen Island.

Polygonum Bistorta, Linn.; Ledeb. Fl.

Ross. 3, p. 518; Seem. l. c.; Rupr. l. c. Traub.

Fl. Iamyr. l. c.; Meissner in Dc. Prod. 14, p. 125.

Cyan on hillsides, J. Small. Arakamchetchen Island, Hillsides. Flowers rose-color, anthers dark crimson

Polygonum viviparum, Linn.; Ledeb. Fl.

Ross. l. c.; Hook. & Arn. Bot. Beechey, p. 116, 129; Seem.

l. c.; Traub. Fl. Iamyr. l. c. Cyan, on hillsides

flower, white, J. Small. Arakamchetchen Island

Fl.

Polygonum polymorphum, Ledeb. Fl. Ross.

3, p. 524; Meissner in Dc. Prod. 14, p. 139; Traub. &

Meyer, Fl. Cehot, p. 23 in Medwes. Sibir. P. alpinum,

Hook. & Arn. Bot. Beechey, p. 129 ex Ledeb. Shantar

Island, in ravines. Flowers greenish yellow, J. Small.

Polygonum pterocarpum, n. sp.

Caule recto vel assurgentē simplici vel paucis ramoso, longitudinaliter striato glabro vel ad. nodos deorsumque breviter retrose-pubescente; foliis (inferioribus ad ochream redactis) patentibus linearilanceolatis acuminatis basi angustatis breviter petiolatis glabris vel ~~subtus~~
 subtus ad ^{ne rupi} puberulis margine ciliatis undulatisque inferioribus supra basin tertiā parte superioribus imæ basi insertis; ochris laxis nervoso-striatis rufis glabris vel basi pubescens; panicula angusta foliata; pedicellis bracketis latiss 1-2 floris; pedicellis exsertis florem equantibus supra medium articulatis; Sepali ovalibus vel obovatis obtusis;
 Staminibus ovario dimidium equantibus; Achene exerto calyce 3-4flo longiori obovato late triangulari stylis 3 recurvati coronato Stigmatibus capitatis; Semine vulnē stipitata, ~~et~~ stipite apice sub contracto
 Coal Bay, J. Small. Arukamtschetchen Island.

The Specimens from two rather remote localities ~~are~~ are 8-15 inches high erect or slightly assurgent at the base; the short lower joints two or three times as long as the rather inflated leafless sheaths. Some of the specimens are clothed at & below the nodes with a more or less dense, short, retrorse pubescence, while the lower & upper parts are nearly or quite smooth. The points, however, in which they seem most to differ from *P. polymorphum*

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P. divaricatum, and other allied species, are in the conspicuously exserted & broadly winged achenium,
as well as in their rather strict nearly unbranched
habit.

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Polygonum divaricatum, Linn.; Wedd.

Zel. Ross., 3, p. 526; Meisner in Die Prodr 14, p. 140.

var. angustissimum, ^{1°} pilosum, Meisner, i. e.

Jarnak Gulf, near the sea. Flowers yellow. St. small

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Empetrum nigrum,

Empetrum nigrum, Linn.; Gmel. Fl.
Ross., 3, p. 555; Traub. & Meyer, Fl. Ural., p.
76 in Kedrov. Sibir.; Seem. l.c.; Hook. &
Am. Bot. Buckley, p. 116, 129. Kamtschak,
J. Small. Arakamschikine Island.

Salicaceæ.

Salix Caprea, Linn.; Host, Salix, p. 24, t. 66, 67; Ledeb. Fl. Ross. 3, p. 609; Grauw. & Meyer, Fl. Sib. Cetoz. p. 79 in Middendorff, Sibir., Rupr. Fl. Samoyd. Cisural. No. 254. Petropavlovsk. A large spreading bush about fifteen feet high.

Salix phyllicifolia, Linn.; Ledeb. Fl. Ross. 3, p. 611; C. discolor, Host, Salix, p. 18, t. 60, 61; Cham. & Schlecht in Grisebach, 6, p. 538 ex Ledeb. Petropavlovski, on hillsides. A spreading bush 6-9 ft high.

Salix hastata, Linn.; Ledeb. Fl. Ross. 3, p. 612; Grauw. Fl. Bogamid. p. 153 in Middendorff, Sibir.; Rupr. Fl. Samoyd. Cisural. No. 259. J. Small, particular locality not recorded.

Salix rhamnifolia, Pall.; Ledeb. Fl. Ross. 3, p. 612; Hook. & Arn. Bot. Beechey, p. 117, t. 26; S. Taimyrensis? Grauw. Fl. Taimyr. p. 27 in Middendorff, Sibir. On flats at the base of hills; branches prostrate. Anakumtchukhene Island.

Without staminate flowers it may be impossible to determine whether this plant & S. Taimyrensis are

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are the identical, but they agree in so many particulars as to leave but little doubt that they are the same.

Salix glauca, Linn.; Gedeb. Fl. Ross. 3,
p. 618; Fraunr. Fl. Yaimyr. p. 26 & Fl. Boyanid., p.
153 in Madden. Sibir.; Rupr. Fl. Samojid. Cisural.
No 225. Orakanschekhem Island.

Salix arctica, Pall.; Gedeb. Fl. Ross. l.e.
Seem. Bot. Herat., p. 40; Hook. & Am. Bot. Beechey,
p. 129; Fraunr. Fl. Boyanid., p. 154 & Fl. Yaimyr.
p. 26, l.e.

Tar. leucarpa, Gedeb. l.e. S. Richardson? Hook.
Fl. Bor.-Am. 2, p. 147, t 142; S. curvata? Jurcz.;
Fraunr. Fl. Cehot. l.e. Noval Bay on salt-walls.
J. Small.

Salix Wavellii, Pursh; Gedeb. Fl. Ross.
3, p. Seem. l.e.; Hook. Fl. Bor.-Am. 2, p. 152; Gray
Man. p. 418. S. ovalifolia, Fraunr.; Gedeb. Fl. Ross.
3, p. 620. Orakanschekhem Island on dry flat, near
the sea-side.

Salix reticulata, Linn.; Gedeb. Fl. Ross. 3,
p. 623; Seem. l.e.; Hook. & Am. Bot. Beechey, p. 180 &
Rupr. Fl. Samojid. Cisural. l.e. Summit of hills,
in damp ground

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Salix retusa, Tenn.; Lindb. Fl. Ross.
3, p. 624; Seem. l. c.; Rupr. l. c.; Hook. & Arn.
l. c.; Host, Salix, p. 32, t. 103. S. retusa, var.
rotundiglobia, Braunm. Fl. Bogdand. p. 152 in Middend.
Sibir. Among mosses on hillsides, Arakantsche-
tschen Island.

Salix retusa Linn? var. vibratula?
Salix potanini, Hakkab., Lindb. Fl. Ross.
3, p. 624; Seem. l. c.; Frank. Fl. Fairimyr. p. 25
in Middend. Sibir.; Rupr. l. c. Arakantsche-
tschen Island

Our numerous specimens present a considerable variety of forms. Those growing in any sandy soil have the stems intricately branched, with leaves varying from a little more than a quarter of an inch to less than a line, & in shape from elliptical to orbicular, while the aments are only 3-4-flowered. Another form has the leaves oval, & even lanceolate, nearly half an inch long, and the aments little less than an inch. None of the specimens have serrated leaves, and the young plants are more or less pubescent with the leaves ciliate.

Populus suaveolens, Fisch. in Lindb. Fl. Ross.
3, p. 629; P. balsamifera, Hook. & Arn. Bot. Bucchi,
p. 117; Braunm. & Meyer, Fl. Cehot. p. 76 in Midd-
dend. Sibir. Petropavlovski. A shade tree within
enclosures.

Betula.

Betula Ermanii, Cham. in Linnaeus,

Cp. 537, t. 6, f. 2. Ledeb. Fil. Ross. 3, p. 363; Traub.
v. Meyer, Fil. Cehot. p. 83 in Middew. Sibir. Ayan,
on hillsides. A tree 30 ft high. J. Small.

This species is readily distinguished by the
large tuft of densely woolly bud-scales at the
base of the fertile aments.

Betula pubescens, Pall. Ledeb. C. e.;

Traub. & Meyer, t. e. Petropavlovski on hills
in dense thickets. A shrub 4-8 ft high.

In the form of the leaves, their pubescence
and color, as well as in the dentation, this
plant is strikingly like the preceding. They
are perhaps a little thinner in texture and
smaller, resinous-punctate beneath, truncate
or slightly cordate at base and on shorter
petioles; the latter and all the veins below and
above are clothed with a slightly tawny
villosity. The linear-lanceolate or subspatulate
light brown stipules are conspicuously ciliate
at the apex, and the spine, half the length of
the ament is ^{furnished} clothed with a few similar but
smaller bud-scales a little more than its own
length. The subligneous scales of the fertile ament

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are ciliolate when young, but subglabrous at maturity, less deeply cleft, and the lobes are approximate; the lateral ones subrecurved. The wing of the seed is scarcely half its width, the awl-like hardly reaching the base of the style.

Betula nana, Griseb. Fl. Ross.

3, p. 653; Seem. Bot. Herat., p. 41; Traub & Meyer, Fl. Cekot., p. 85 in Modan. Sib., Hook. & Arn. Bot. Beechey, p. 129; Rupr. Fl. Samoyd. Bismarck, No. 246. Coal Bay, on table lands. J. Small Arakan Lekshene Island.

Alnus viridis, St.; Ledeb. Fl. Ross., 3,

Fl. Cham. in Tinnaca, 6, p. 538; Seem. l. c. A. Furtwangler Rupr. l. c.; Traub. Fl. Bogard., p. 182. Alnaster viridis, Ledeb. Fl. Ross., 3, p. 653; Traub. & Meyer, l. c. Ayam on hillsides, J. Small. Petropavlovski on hills — a spreading brush 40-80 ft. high.

(99)
Coniferæ

Pinus Ajanensis, Fisch. ex sub *Picea* in Gravtov.
2 Mayer Florida Cebot. p. 87. A large tree on moun-
tains & in vallis at Tikhustoff harbor.

Pinus Sibirica, Ledeb. Fl. Alt. 4, p. 204, sub-
Larix. *Larix Sibirica*, Link in Linnaea 15, p. 535,
Gravtov. Mayer in Florida Cebot. p. 88. *Pinus Zolbovii*,
Zolb.; Ledeb. Fl. Ross. 3, p. 672; Abies Zolbovii;
Ruprecht Fl. Samoyed. censuad. No. 269. Taouansk
Gulf, Ola Bay. A large tree on mountain sides

Pinus Cerulina, Grun. Sp. 1419, Ledeb. l. c.;
Gravtov. Mayer, l. c.; Hook. & Arn. in Bot. Beechey,
p. 117. Coal Bay. A low bush inclining to spread
over the ground. Ayan, Petropavlovsk; a low
spreading bush 4-8 ft high.

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Juncaginaceae.

Triglochin palustris, Linn. Sp. 482; Lerb.
H. Ross. 4, p. 35; Kunth. Encycl. 3, p. 143; Hook. Fl.
Bon.-Am. 2, p. 168; Braun & Meyer Fl. Octov. p. 90;
Ruprecht. Fl. Samoyd. cesural. No. 280; Ara-
kantschetschea Flora.

A single specimen only, in fruit and
rather imperfect, was obtained.

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Orchidaceae

Orethis aristata, Zisch.; Gray, Botany of Peru, Exptl., p. 320. Orethis laevifolia, Lindl., Fl. Ross., 4, p. 54. Hills, Petropanowski. Flowers purple

Peristylus viridis, Lindl.; Lindl., Fl. Ross., 4, p. 72. Coelogylossum viride, Rupr., Fl. Samoy., Leizmäl., No. 274. Damp hillsides, Arukamtschekhem Island. Spikes of flowers dull red.

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Iridaceæ

Iris setosa, Pall. in Mill. herb. No. 993;
Ledit. Fl. Ross. 4, p. 27. I. Ibilinca, Hook. & Arn. Bot.
Buchey, p. 117? 130? Yamsk Gulf.

+ Iris Pseud-Acorus, Linn. Sp. 56; Ledit. l.c.
Ayan. (cf. I. longica)

The specimen are incomplete, showing only
the top, & more than a foot in length, of, apparently,
a rather tall stout plant, but without any
radical or lower caudine leaves.

Smilacace

Trillium ovatum, Pursh, Fl. Am. sept.,
 1, p. 245; Keenth. Erym. 5; p. 124; Ledeb. Fl. Ross. 4,
 p. 121; Hook. & Arn. in Bot. Bucey, p. 117. Hillsides,
 Peterpaulovski. Flowers white.

Hedysarpas rosacea, Mey. Fl. Bon.-Am. 2, p. 200;
 f. 18; Keenth. l. c.; Hook. Fl. Bon.-Am. 2, p. 173; ^{fig. 6} Ledeb.
 Ayan, on shady hillsides. J. Small
 The peduncle of the fruit is recurved, but
 exhibits no trace of the twist.

Smilacina bifolia Desf.; Ledeb. l. c.; Hook. l. c.;
 Ruprecht. Fl. Samojid cisural. No. 277. Cornus
bifolia, Linn. & Guss. Kajinthenum bifolium, G. &
 Auct. Ayan in shady valleys. Flowers white. Also
 Shantar Islands. ^{J. Small} Hillsides, Peterpaulovski.

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Silaceæ.

Leloydin serotina, Salisb.; Kunth. Enum.
4, p. 244; Ledeb. Fl. Rosa 4, p. 144; Fraun. Fl. pp.
Taimyr, p. 24. Anthemum serotonum, Linn. & Bentz,
Arakamtschetschev Island. Flowers whitish,
red-veined externally.

Allium splendens, Willd. herb. No. 6477.c
Kunth Flum. 4, p. 420; Ledeb. l.c. Hillsides at
Petropavlovski. Flowers deep red or crimson.

(Seem. Bot. Herat., p. 41.)
Allium Schoenoprasum, Linn. Sp.
432; Lidderd. c.; Kunth, l.c. A. Sibiricum,
Fraun. & Meyer Fl. Oehot. p. 93; Hook. & Arn. Bot.
Buchey, p. 118, 130. Again on hillsides; flowers
purple.

Fritillaria Kamtschatcensis, Ker.
Nat. Nig. pl. 121b; Kunth, Enum. 4, p. 254;
Hook. Fl. Nov.-Am. 2, p. 181, t. 193. (Kamts
Gulf); in fruit.

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Melanthaceae.

Vergatum album, Linn. Sp. 1479. Ledeb.
Fl. Ross. 4, p. 208; Grunth. Enum. 4, p. 186. T. vindz.
Trautv. & Meyer, Flora. Cebot. p. 95; Hook. Fl. Bor-
Am. 2, p. 178. Coal bay in ravines: flowers greenish
yellow. Petropavlovsk on damp hillsides

Tofieldia palustris, Huds. Fl. ingr. p. 157;
Grunth. Enum. pp. 166; Ledeb. l. c.; Hook. l. c.;
Trautv. & Meyer, Flora. Cebot. p. 96. Hillsides
and on damp ~~soil~~ ground, Arakanutschetchev
Island.

Tofieldia coccinea, Brown in Richards.
App. to Frankl. Journ. (ed. L. 2,) p. 11; Grunth. l. c.;
Ledeb. l. c.; Hook. l. c.; Hook. & Arn. Bot. Beechey
p. 130, t. 29. Arakanutschetchev Island or
pebbly flats near the bay.

Tofieldia calyculata, Wahlenb. H. Gap
p. 90; Grunth. l. c.; Ledeb. l. c.; Trautv.
& Meyer, l. c. Coal bay on suble-lands.

Juncaceæ.

Luzula pilosa, Willd.; Lindb. Fl. Ross. 4, p. 214; Meyer in Linnaea, 22, p. 883; Horak. Fl. Boh.-Cen 2, p. 188; Rupr. Fl. Samoj. Lissunal. No. 281. L. vernalis Kuntz, Enum. 3, p. 297. Juncus pilosus, Auct. Dry hills, Petropavlovski.

Our specimens have none of the coloration at the base of the leaves mentioned as one of the specific characters; and the capsules are broadly ovate and very decidedly longer than the hairy acute sepals.

Luzula spadicea Dc., Lindb. Fl. Ross. l.c.; Meyer, l.c.; Kuntz, l.c.; Traub & Meyer. Fl. Behring. p. 97 in Middens. Silir. Coal Bay on subblands J. Small.

(var. pumila; Arakanschukon Island)

The plants from Coal Bay have the panicle diffuse, the stamens hardly half the length of the sepals, the filaments longer than the anthers and the seeds oblong. Those from Behring's Straits are smaller with the panicle of a few rather dense heads and the oval seeds are quite conspicuously microreticulate.

Luzula acuminata, Wahlenb. Meyer, l.c.; Seem. Bot. Herat, p. 42; Lindb. l.c.; Kuntz, l.c.; Traub & Meyer, l.c. Tabun Bay on mountain tops J. Small. Arakanschukon

ne Island.

Several forms are in the collection. That from Western Kamtschacka and some specimens from Behring's Straits accord pretty well with the description of *L. hyperborea*, Br. The sepals are longer than the capsules & twice the length of the stamens of which the filaments are longer than the anthers. Another form, *L. acuata*, var. a. Meyer, l.c. has the bracts ^{lett} so strikingly fimbriate as to give the spikelets a grayish hue. The stamens are one third shorter than the sepals. Still another form has more diffuse panicles, the very acute sepals a little longer than the apiculate capsules, the stamens half the length of the sepals, and the oval anthers shorter than the filaments.

Luzula campestris, Dc. M. Frac. No. 1827;
Ledeb l.c.; Bunth l.c.; Meyer, l.c.; Traub &
Meyr, l.c.; Hook, l.c.; Petropavlovskii. Ayan.
 Arakan & Southern Islands. (map in Japan. Expl. Report, p. 322)

The northern form has the panicles densely spicate, var. f. Meyer, l.c., the capsules nearly or quite as long as the sepals & the stamens half their length; those from the other places have the panicle diffuse. In the Petropavlovskii plant the capsules are as long as the sepals, the stamens half as long & the anthers a little longer than the

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filament; while those from Ayau the stamens are one third shorter than the sepals, the anthers twice the length of the filament, and the capsule at the base of the oval and nearly its thickness and almost half its length.

Luzula spicata St. Hl. France No. 1028;

Ledeb. l. c.; Bunth, l. c.; Meyer, l. c. Arakanet
chschene Island. Seem. Bot. Herab., p. 42.

The specimens have the rather spiculate panicle rigidly erect, & I do not find the foliaceous bracts mentioned in the specific character.

Seem. l. c.) Juncus castaneus, Smith, Hl. Brk. I. p. 383;

Ledeb. l. c.; Bunth, l. c.; Hook. l. c. Arakanet.
chschene Island. Wet & sandy flats.

In some flowers, the stamens are ^{as long} ~~much~~ ^{much} longer than the capsule.

Juncus triglumis, Linn. ^{Spec. p. 1967} Ledeb. l. c.
Bunth, l. c.; Hook. l. c. Ayau. ~~Arakanet~~
~~chschene Island.~~ J. Small

The Sepals ^{are} one third shorter than the capsules, the exterior acute; the stamens of the same length.

Juncus triglumis, Linn. Spec. p.
467; Ledeb. l. c.; Bunth, l. c.; Ruprecht,
Hl. Samogea. cesural. No. 289; Florula
Taimyr. p. 23. Arakanet chschene Island

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The stamens are much elongated, equalling or exceeding the ripe capsule.

(116) (110)
Cyperaceae.

Eriophorum vaginatum, Linn. Sp.

76; Anders. Pl. Scand. p. 1³⁰; Traub. Fl. Bojan. p. 151;
Ruprecht. Fl. Samord. casuac. No. 291; Trautv. & Meyer,
Fl. Cecoz. p. 97; Ledeb. Fl. Ross. 4, p. 252; Knuth 2, p. 177.
Fabius Bay on mountain tops. J. Small

Eriophorum capitatum, Host; Hook. Fl. Bon-Cem.

2, p. 231; Ledeb. l. c.; Knuth, l. c.; Anders l. c.¹³⁰; Ruprecht,
l. c., Traub. Fl. Bojan. l. c.; Trautv. & Meyer, l. c.
Seem. Bot. Heratij Hook. & Arn. Bot. Bucley, p. 131.
E. Schenckeri, Ledeb. l. c.; Trautv. Fl. Bojan. l. c.;
Trautv. & Meyer, l. c. Wet sandy soils at the base
of hills, Arakamsche & Chem Island.

The mature achenium is narrowly obovate, often
apiculate, subcylindric but with the lower angular lines
very distinct, a little longer than the style and as long
as the stigmas. Immature achenia of apparently the
same plant have the style three times the length, & the
stigmas twice the length of

Eriophorum Chamissonis, C. A. Meyer. in. Ledeb.

Fl. Alt. 1, p. 70; Fl. Ross. 4, p. 253; Knuth, l. c. Wet
hills, Arakamschekhem Island.

In its cespitose habit & in the shape of the
achenium, this very closely resembles E. vaginatum,
and is perhaps only a form of it. The leaves appear a

(107) (111)

little narrower and the capitulum has the broad
bracts at ~~the~~^{its} base. It also agrees well with specimens
in the herbarium of Dr Gray.

Eriophorum angustifolium, Hoppe Taschenb. 1800,
p. 168; Ledeb. l. c.; Kunth, l. e.; Anders. l. c. Fabius
Bay; on mountain tops.

Eriophorum angustifolium, Roth. Test. Pl.
Germ. I, p. 24; Ledeb. l. c.; Kunth, l. e.; Anders. l. c.;
Traubn. l. c.; Hook. l. c.; Hook. & Arn. l. c.; Scam. l. c.
Wet grounds, Arakanschetsche Island,

Elyna spicata, Schrad.; Hook. Fl. Bor. Am.
2, p. 228; Ledeb. Fl. Ross. 4, p. 262; Kunth, Enum.
Pl. 2, p. 533. Arakantschotene Island. Sandy
flats near the seaside.

Elyna canicina, Wern. & Koch; Hook. l.c.;
Ledeb. l.c.; Kunth, l.c. Arakantschotene
Island. Pebby flats, near the shore.

(Canes by Mr. F. Booth.)

Carex scirpoidea, Mx. ^{1/2} ~~1/2~~ Hook. Fl. Br.-Am.,
vol. 2, p. 208. Arakantschetschen I. On sandy flats
near the sea-side & on damp hills.

Carex nudina, Griseb. Mant. 2, p. 55;
Lindb. Fl. Ross. 4, p. 267. & Hepburnie, Boott, l.c. p.
209, t. 207. Arakantschetschen I. On stony flats
& dry hills.

Carex incurva, Lightf.; Lindb. l.c. p. 269;
~~Ruprecht~~. Fl. Samg. Bisural. no 305; Boott, l.c. p. 211.
Arakantschetschen I. On sandy flats.

Carex lagopina, Wahl. Act. Holm. 1803, n. 37;
Lindb. l.c. p. 279; Rupr. l.c. Petropavlovsk ^{ov} & Ara-
kantschetschen I.

Carex glauca, Wahl. l.c. no. 44; Lindb.
l.c. ^{1/2} 284; Boott, l.c. p. 214; Rupr. l.c. no. 304.
Petropavlovsk ^{ov} & Arakantschetschen I.

Carex siccata, Dewey; Gray, Man. 571; Boott,
l.c. 212. Petropavlovski.

Carex variflora, Smith. Eng. Bot. ^{t. 516} 1851; Boott,
l.c. ^{1/2} 224; Lindb. l.c. p. 297; Rupr. l.c. no. 300.
Arakantschetschen I. Dry hills & wet grounds.

Carex fuliginea, Stevub. & Hoppe; Kunth,
Enum. Pl. 2, p. 435; Bott., l.c. C. fujisana ex Ledeb.
l.c. p. 294. Arakantschetschen I. On dry hills.

Carex Grulini, Hook. & Arn. Bot. Bact. p. 118.
l.c. 27; Ledeb. l.c. p. 288; Bott., l.c. p. 216. Petropavlovsk & Arakantschetschen I.

Carex rigidus, Good.; Gray l.c. p. 517; Bott.,
l.c. p. 217; Rupr. l.c. no. 296; ~~var. in Middle 1,~~
~~part 2, p. 7~~. Arakantschetschen I. Along dry
banks of rivulets & hillsides - common.

Carex stans, Dcijer. Rev. Ont. p. 40.
Arakantschetschen I. Wet grounds at the foot of
hills.

Carex hyperborea, Dcijer, l.c. p. 43. C. sax-
atilis, var. ex Ledeb. l.c. p. 310. Arakantschetschen
I. Low wet ground.

Carex cryptocarpa, Meyer; Kunth l.c. p. 416;
Ledeb. l.c. p. 313; Bott., l.c. p. 219. Petropavlovsk;

Carex saxatilis, Linn.; Prote, l.c. p. 220;
Ledeb. l.c. p. 307; Hook. & Arn. l.c. p. 131. C. pullex, Good.
Lod. l.c. p. 308. Arakantschetschen I. On wet flats.

Carex compressa, Brown, in Ross. Verz. Knuth
l.c. p. 524; Brot., l.c. p. 220. Arakamutche Tschene.
Carex compressa, Brown, in Ross. Verz. Knuth
l.c. p. 524; Brot., l.c. p. 220. Arakamutche Tschene.
In marshy or wet ground.

Carex Golmiei, Brot., l.c. p. 224.
Petropaulovski & Arakamutche Tschene. In
damp ground.

Carex praecox, Jacq.; Gray, l.c. p. 526;
Ledeb. l.c. p. 301. Petropaulovski.

Carex capillaris, Linnaeus; Gray, l.c. p. 527;
Ledeb. l.c. p. 295; Brot. l.c. p. 227.
Arakamutche Tschene. On dry hills.

Carex longirostrata, Meyer, Leipzig. Nov. t. 12;
Ledeb. l.c. p. 293. C. ~~canescens~~ canescens
Knuth, l.c. p. 477. Petropaulovski

Carex amputata Good. Linne. Trans. II, 207
Lindl. Bot. Rev. IV, 318.

low Bay

J. Small

Gramineæ.

Elymus mollis, Grin. in Spzeng. &c. Entd.

2, p. 72 nec R. Br. ex Ledeb.; Kunth, Enum. 1, p. 453;
Ledeb. Fl. Ross. 4, p. 332; Grin. Fl. Yaimyr.
in Meddene. Libir. p. 20; and Fl. Ochot. p. 102.
Petropanovskian and Arakamtschetschen Island on
pebbly beaches near the sea

We have two slightly different forms, as might be expected,
two localities, agreeing in most respects with the des-
criptions and specimens which we have seen of E. mollis,
and at the same time apparently not unlike E. dasystachys,
Grin. The glumes are certainly not broadly lanceolate as
in the former, nor are they glabrous as in the latter.
Are not the two forms of the same species?

Festuca ovina, var. viridis, Linn. Sp. 108;

Ledeb. Fl. Ross. 4, p. 350; Kunth, Enum. 1, p. 398;
Rupr. Fl. Samoy. Cesal. No. 310; Hook. Fl.
Br.-Am. 2, p. 257; Scm. Bot. Herat., p. 43. On
sandy ridges, in small tufts, Arakamtschetschen
Island.

Festuca brevipolia, R. Br. in Pary's L. Voy.

(pp. p. 289, 309; Hook. Fl. Br.-Am. l. e. F. brachyphylla, Schult. Mant. 3, p. 646; Kunth, Enum. 1,
p. 398. In dense tufts on stony & sandy flats & a rather
fuller form on hill-sides, Arakamtschetschen Island)

Festuca scabrella, Torn. mss. in Hook. Fl.

Bon. Ann. 2. p. 252, t. 233. On hillsides, in dense tufts, (Anatamchetsche Island).

In most respects, our plant appears to approach very closely F. altaica, Torn. in Ledeb. Fl. Alt. 1. p. 109 & Ge. Fl. Ross. t. 228. In its cespitose habit, its size, its diffuse panicle, the scabrousness of the palea and smoothness of the glumes, they are so much alike, that were it not for the short awns on lower palea, we should without hesitation refer it to that species. It accords however well with an authentic specimen of F. scabrella from the Hookerian herbarium, which, however, has (not) the spikelets $\frac{3}{4}$ inch long as described, perhaps by a clerical error, but, like ours, somewhat less than half an inch. Without specimens of F. altaica, it would be unsafe to refer it thither, however much the resemblances noted above lead to render their identity probable.

Poa alpina, Linn. Sp. 97; Ledeb. Fl.

Ross. 4, p. 370; Knuth, Enum. 1. p. 358

Poa arctica, R. Br. in Parry's 1 Voy.
 p. 188; Hook. Fl. Bor.-Am. 2, p. 246; Ledeb. Fl.
Ross. 4, p. 373; Trautv. Fl. Taimyr. in Midden.
Sibir. p. 19; Kunth, Enum. 1, p. 349. Abundant
 and in various forms, Arakamtschekhene Island.
 Also, a larger form from Petropavlovsk.

Poa caesia, Sm. Brit. 1, p. 103; Ledeb. Fl.
Ross. 4, p. 374; ^{syn. afem. gramine.} Stein, p. 254. Poa Gaudini,
 Kunth, Enum. 1, p. 355. Arakamtschekhene Island
 on damp hillsides & on pebbly flats near the sea.

Some points of resemblance as the generally
 glaucous Poa bigelovii, Griseb. hue, the length of
 the culm above the upper leaf and its scabrous summit
 as well as the general size & habit afford strong grounds to
 suspect that P. caesia, Smith, P. Gaudini, Ran. & Schult.,
 & P. minor Gaud. are not specifically distinct.

Poa membranacea, Stev. Spec. 102; Ledeb.
 Fl. Ross. 4, p. 375; Kunth, Enum. 1, p. 353; Hook.
 Fl. Bor.-Am. 2, p. 246. Petropavlovsk, on hillsides,
 in dense tufts. Also Arakamtschekhene Islands.

The specimens from Behring's Straits have consid-
 erable resemblance to P. laxa. May not this be an
 extreme northern ~~form~~ state of the former?

Colpodium fulvum, Ledeb. Fl. Ross. 4,
 p. 385; Stev. Syst. Gram. p. 255. Poa fulva, Griseb.;
 Kunth, Enum. 1, p. 359; Rupr. Fl. Samoyd. Cisural.

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No. 319; Hook. Fl. Bor.-Am. 2, p. 247. Margin
of pond, Arakamschetchene Island

In our specimens the spikelets are much reduced the greater number having but one flower with the rudiments of a second; none appear to have more than two. The plants are two feet or more high.

Colpodium latifolium, R. Br. Hook. Fl.
Bor.-Am. 2, p. 238; ^{Exapt. H. Fairm. in Madag., p. 18} Knuth, Thun. T. p. 205, ~~C. pauciflorum?~~
~~C. pauciflorum?~~ Hook. l. c. Aretagnonis latifolium, Lovel.
Fl. Ross. 4, p. 434. Tilga arundinacea, Hook. & Arn.
in Bot. Beechey, p. 131. Arakamschetchene Island,
on hillsides.

A small form may be Hooker's C. pauciflorum, in which was observed the rudimentary flower as referred to by him, but a much larger one was found in the flowers of the larger stalk. The callus is furnished with very short hairs.

Dipsontia Fischeri R. Br. in Parry's I.
Voy. App. p. 291; Ledeb. Fl. Ross. 4, p. 386; Hook. &
Arn. Bot. Beechey, p. 132. ^{Metaplat.} Arakamschetchene Island.

Var. refracta, rami refracti vel posentibus; ~~flor.~~
spiculis unifloris, rudimentis nullo.

Var. stricta, altior, firmior; rami ^{brevius.} rachidi acute
adpresso; spiculis unifloris cum rudimentario

We can find no trace of a rudimentary flower in the first variety which besides is slender and lower than the second. This is rather stout one foot in height with the

branches of the panicle nodly erect and closely pressed to the rachis. The spikelets have a rudimentary flower about one third the length of the perfect one.

Catabrosa algida, Gr. Novi. Fl. Suec. Mant.
3, p. 174; Ledeb. Fl. Ross. 4, p. 388. Phippia algida,
Trunov. Fl. Yenisei, p. 18 in Abroden. Sibiri Hook. Fl.
Bor.-Am. 2, p. 238. Vilfa monandra, Hook. & Arn. Bot.
Beechey, p. 132. Arakamschekene Island, On steep
naked banks.

Atrypis angustata, Ledeb. Fl. Ross. 4, p.
390, Poa angustata, R. Br.; Hook. & Arn. Bot. Beechey,
p. 132. In small dense tufts, on low flats near the
sea, Arakamschekene Island.

Glyceria distans? Wahlent. Festucæ dis-
tans? Koenig Enarr. 1, p. 393; Arrowsis distans? Ledeb. l.c.

Three young specimens procured by officers of the Vincennes from Herald Island more closely resembling small plants of G. distans, in herbage than any other, we have seen, have been with some doubt referred to that species. They are cespitose, ^{flat linear} the leaves far exceeding the young panicle.

Glyceria areacea, Hook. Fl. Bor.-Am.
2, p. 248, t. 229. On hills & in flats near the sea
in dense tufts. Arakamschekene Island.

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From the abundance of our specimens this would seem to have been a common grass and it is somewhat remarkable that no one appears to have brought its form thus plant. Some of our plants are more than a foot high

Henrichloe alpina, R. & Schult. Syst. 2, p. 515; Hook. & Arn. Bot. Beechey, p. 132; Hook. Fl. Bon. Am. 2, p. 234; Rupr. Fl. Samoja. cesural. No. 332; Kunth. Enum. 1, p. 36; Ledeb. Fl. Ross. 4, p. 408.
Hillsides, Arakamsche tchene Island.

Trisetum subspicatum, Beauvois; ^{Teem. Bon. Acad., p. 43;} Kunth,
Enum. 1, p. 295; Hook. Fl. Bon.-Am. 2, p. 244;
Rupr. Fl. Samoja. Cesural. No. 328; Traub. & Meyr
Fl. Cehot. p. 104 in Middlew. Sibz. Petropavlovski,
Arakamsche tchene Island.

Aira brevifolia, R. Br. Deschampsia bre-
vifolia, Hook. Fl. Bon.-Am. 2, p. 242; Ledeb. Fl.
Ross. 4, p. 422; Kunth, Enum. 1, p. 287. D. cespitosa
var. Traub. Fl. Taimyr. p. 18 in Middlew. Sibz.
Wet flats near the sea, in small dense tufts, Arakam-
sche tchene Island.

^{no. 327}
Aira cespitosa, Linn. Sp. 96; Deschampsia
cespitososa, Kunth. Enum. 1, p. 286; Ledeb. Fl. Ross.

4, p. 421; Trautv. Fl. Taimyr. p. 18 in Middendorffia Sibirica.
Hook. Fl. Bor.-Am. 2, p. 242. Flats near the sea
 Arakanschetschen Island.

Calamagrostis deschampsiioides, Trin. &c. gram.
3, t. 354; Turcz. Fl. Ross. 4, p. 427; Rupr. Fl. Samoyed.
cisural. No. 340; Trautv. & Meyer. Fl. Oehoticae. p. 105
in Middendorffia Sibirica. Flats near the sea, Arakanschetschen
 Island.

Calamagrostis strigosus, Bong. veget. ins.
Sitcha p. 171; Turcz. Fl. Ross. l. c.; Steud. Gram. p.
189. On hillsides, Arakanschetschen Island.

Calamagrostis Canadensis, P. de Beauvois sec.
Seem. t. 10
Hook. Fl. Bor.-Am. 2, p. 240; Hillsides in tufts,
Arakanschetschen Island.

Phleum alpinum, Linn. sp. 88; Turcz. Fl.
Ross. 4, p. 458; Hook. Fl. Bor.-Am. 2, p. 234; Rupr.
Fl. Samoyed. cisural. No. 333. Petropavlovskii.

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Equisetaceae.

Equisetum arvense, Linn.; Lindb. Fl. Ron.
4, p. 486; Seem. Bot. Herab., p. 44; Hook. Fl. Bor.-
Am. 2, p. 269; Hook & Arn. Bot. Beechey, p. 119; ~~Hork.~~
Damp ground along rivulets, Petropavlovski.

Equisetum sylvaticum, Linn.; Lindb. Fl.
Kos. L. e.; Seem. l. e.; Hook. l. c.; Traub. v. Abeg.
Fl. Cehot. p. 106 in Middendorf. Sibir. Damp ground
along rivulets, Petropavlovski.

Equisetum variegatum, Schleich.; Lindb. Fl.
Kos. 4, p. 490; Hook. Fl. Bor. Am. 2, p. 270; Traub.
v. Abeg., Fl. Cehot. l. c. Hill-sides, Arakansu-ho-
tchens Islands

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Lycopodiaceae.

Lycopodium Selaginoides, Linn.; Ledeb. Fl. Ross.,
4, p. 446; Stev. Bot. Herat., p. 44; Hook. Fl. Bor.
Am., 2, p. 266; Hook. & Arn. Bot. Beechey, p. 132.

Mountain ravines, in shaded places, Thamtar Isl.
and, J. Small. Arakamtschekhem Island, on banks
of rivulets.

Lycopodium annotinum, Linn.; Ledeb. Fl.
Ross. l.c.; Stev. l.c.; Hook. & Arn. l.c.; Hook.
l.c.; Traub. & Meyer, Fil. Cebot., p. 106 in Middend.
Sibir. ^{and Coal P.} by J. Small.

Lycopodium complanatum, Linn.; Ledeb.
Fl. Ross., l.c.; Hook. l.c.; Traub. & Meyer, l.c.
Ayan, J. Small.

Selaginella rupestris, Linn. Spring; Ledeb.
Fl. Ross., 4, p. 500; Traub. & Meyer, l.c. Lycopodium
rupestri, Linn.; Hook. l.c. Pebby flats near the sea,
Arakamtschekhem Island. Younangki islet.

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Filices,

Polyodium Dryopteris, Linn.; Ledeb. Fl.

Ross. 4, p. 589; Hook. Fl. Bor.-Am. 2, p. 259.

Mountain savines, in shaded places, Chikisoff Harbor
Shantar Island, J. Small.

Linn. Trans. 11, p. 178; t. 8.

Woodisia ilvensis, R. Brown; Lidzb. Fl. Ross. 4, p.

510; Hook. & Thoms. Fl. 1, p. 635; Fl. Bor.-Am. 2, p. 259;

Trans. & Mem., Fl. Cehot. p. 108 in Meddelel. Sibir.

Petrozavodsk, on hillsides,

Linn. Trans. 11, p.

Woodisia glabella, R. Brown; Hook. & Thoms. Fl. 1, p. 648

Fl. Bor.-Am. 2, p. 259, t. 237; Lidzb. Fl. Ross. 4, p. 511;

Among rocks, Arakamtsch. Schew Island.

While our plants in general outline, size and in the crowded capsules are strikingly like Brown's figure of W. hyperborea, the perfectly glabrous rachis, the less deeply divided pinnae extending nearly or quite to the base of the stipe which is hardly longer than the narrow shape of the frond seem to determine this species. The stipes at base are surrounded by chaffy scales and the texture of the frond is firmer than any other specimen of W. glabella we have seen while the color is inclining to brown perhaps from its greater age.

Aspidium fragrum, Swartz; Trans. & Meyer.

Fl. Cehot. c. e.; Hook. Fl. Bor.-Am. 2, p. 261. Nephrodium

fragrum, Hook. & Arn. Bot. Bucley, p. 132; Hook. & Arn. Ic.

Polystichum pinnatum Lindb. Fl. Ross. 4, p. 514. Lastrea pinnata, Seem. Bot. A. p. 94.
Fil. t. 70. Rocky hillsides, Crakamtschetschen Islands.
A party of the specimen were presented by Officer M. B. Boggis.

Aspidium spinulosum, Swartz; Hook. Fl. Ross.
Am. l.c. Polystichum spinulosum, Lindb. Fl. Ross. 4, p. 515.
Lastrea spinulosa, Seem. Bot. Herat. p. 44. Coal Bay,
Ayan & Shantar Island, J. Small. Petropavlovski
on hillsides. Many found from the caudex.

Cystopteris fragilis, Bernh.; Lindb. Fl. Ross. 4, p.
516; Frank. & Meyer, Fl. Cehor. l.c.; Hook. & Am. Bot. &
Beechey, p. 119, 132; Hook. Fl. Ross., Am. Z. p. 260. b. tenuis,
Seem. Bot. Herat. l.c. On hills among rocks, in small dense
tufts, Crakamtschetschen Island.

Asplenium Filix-femina, Bernh. Lindb. Fl. Ross.
4, p. 518. Shantar Island, J. Small.

Blechnum spicant, Roth; Lindb. Fl. Ross.
4, p. 523; Hook. Fl. Ross., Am. Z. p. 263. J. Small.
Locality not given but from the shores of the Okhotsk Sea

Chapman III.